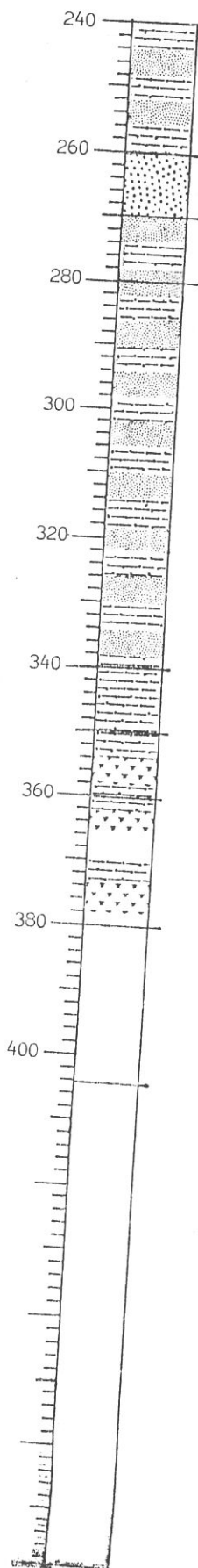


403

C529

	From	To	Thick.	
0	0	40	40'	Soil & alluvium, lt orng-brn, mod org, p cons, mostly slty w/ptly cly matrix.
20				
40	40	50	10'	Sltst, lt buff, mas, cal, brit, hard, mod cons.
60	50	70	20'	Sltst & SS intbd; Sltst, buff, mas, cal, brit; ox stn com; SS, fn gr, lt gry-brn, mod srted, cal, dirty, s & p, mas, brit; tr asp.
80	70	80	10'	Sltst, lt brn-buff, mas, cal, brit, hard; tr ox stn.
100	80	135	55'	SS, fn gr, lt gry-brn, mod srted, sbrd grs, cal, p cmt, brit, mas; ox stn com; pyr flks com; carb stn com.
120				
140	135	160	25'	SS, med-fn gr, lt grn-gry, mod srted, p cmt, dirty; abnt gil flks; abnt pyr flks, sl cal; tr ox stn.
160	160	170	10'	Sltst, lt gry brn, mas, hard, brit, mod comp, sl cal; tr pyr flks; tr carb ctg.
180	170	190	20'	SS, med-fn gr, lt grn-gry, mod srted, p cmt, dirty; abnt gil flks; abnt pyr flks; sl cal; tr ox stn.
200	190	260	70'	SS & Sltst grs intbd; SS, aa; SS, fn gr, lt gry-brn, sbrd, p srted, dirty, s & p, cal, brit; Sltst, lt gry-brn, mas, hard, brit, cal, p cons; abnt ox ctg; abnt carb ctg; tr FeO ctg.
220				
240				



From	To	Thick.	
260	270	10'	SS, med gr, lt grn-gry, p srted, dirty, cal, p cons; tr pyr flks.
270	280	10'	Sltst, lt gry brn, mas, hard, brit, sl cal; tr carb ctg.
280	340	60'	Sltst & ss intbd; Sltst, aa; SS, med-fn gr, lt grn-gry, mod srted, p cmt, dirty; abnt gil flks; abnt pyr flks; sl cal; tr ox stng; tr carb stng; increasing amts of sltst fm 330 - 340.
340	350	10'	Sltst, med gry brn, mas, hard, brit, mod cons, mod cal; pyr flks com; carb flks com; tr wh-buff mrlst.
350	360	10'	Sltst & mrlst; Sltst, aa; Mrlst, wh-buff, fnly lam, v cal, brit, mod soft; tr lt olv brn osh; tr lt grn gry fn gr ss.
360	380	20'	Sltst, mrlst & osh intbd; Sltst, aa; Mrlst, aa; Osh, med-dk olv brn, hard, brit, mod cons; aprox 25% dk olv brn-blk hi grad osh cuttings.
380	404.4	24.4'	Osh, lt-med olv brn, hard, brit, mod cons; pyr flks com; tr lt gry-brn mas sltst; tr wh-buff fnly lam mrlst.
			CORE POINT @ 404.4'

SAMPLE/CORE DESCRIPTION

Hole No. Yellow Creek #3
 Location SE, NW, SE Sec. 24-T 1N-R 98W
 County and State Rio Blanco County, Colorado
 Elev. 6600' TD 2677'
 Spud 6/24/81 Compl. 8/10/81
 Examined by J. Hartley, D. Dorshorst and J. Davis

From	To	
0.0	404.4	Rotary (see cuttings descriptions).
404.4	405.2	Oil Shale, light olive brown to light gray brown, streaked with trace looped bedding, good competence, low grade, marly; buff marlstone streaks and stringers common; Top, Green River Formation 1 tongue.
405.2	409.8	Marlstone, light greenish gray to light brown gray, streaked and looped bedding, poor to fair competence, trace kerogen; light brownish gray fine grain siltstone streaks and stringers common; buff marlstone streaks and stringers common; trace gilsonite streaks; several partings and fractures with pyrite; .50' band of light brownish gray, calcite siltstone with abundant black disseminated carbonaceous flakes and few pyrite stringers from 405.2-405.7, from 406.2-406.4, and .30 at 406.8.
409.8	412.8	Oil Shale, light olive brown, streaked with looped bedding, poor competence, very low to low grade; abundant buff marlstone streaks and stringers; light brown siltstone stringers common; medium olive brown oil shale stringers common; trace light blue gray granular tuff stringers.
412.8	425.5	Oil Shale, marly, light olive brown to light gray brown, streaked with looped bedding, poor competence, very low grade; abundant buff marlstone streaks and stringers; medium olive brown oil shale stringer common; tan to buff siltstone streaks and blebs common; a 0.1 band of tan to buff massive siltstone at 413.6 and a 0.2 band at 413.8; incipient black gilsonite stringer at 414.9; several light blue gray granular analcitized tuff stringers and blebs from 416.6-418.4, a 0.4 band at 416.2, a 0.1 band at 416.8; abundant pyrite on fracture; a 0.8 core loss at 420.0-420.8; light to medium brown siltstone streaks and stringers common from 421.8-424.5, a 0.1 band at 421.0, 422.0, 424.1, and a 0.3 band at 425.3; pinpoint calcite common from 423.1-423.7; bottom of Green River Formation 1 tongue at 425.5.
425.5	435.2	Siltstone, light brownish gray, massive, calcareous, brittle; abundant black carbonaceous flakes; gilsonite streaks common; pyrite common on fractures; trace buff marlstone stringers; tan to buff wavy bed marlstone from 426.5-427.3; tan buff marly and medium olive brown oil shale stringers common from 430.1-432.2;

From	To	
		light olive brown low grade oil shale with streaked and wavy bedding from 434.0-434.9.
435.2	446.2	Sandstone, fine grain, light brownish gray, massive, poorly sorted, dirty, salt and pepper, poor competence; trace buff marly blebs and clasts; abundant black carbonaceous flakes; disseminated pyrite common; siltstone stringers common; slightly calcareous; a 0.2 band of gray siltstone at 436.9; a zone of gray siltstone bands from 441.2-441.8; a 0.4 band of buff marlstone at 440.6; trace gilsonite streaks.
446.2	453.7	Sandstone with siltstone bands; Sandstone, fine grain, light gray brown, moderately sorted, dirty, salt and pepper, slightly calcareous; Siltstone, medium to dark brown to gray, massive, hard, brittle, calcareous; abundant black carbonaceous flakes; overall poor competence; disseminated pyrite common; trace buff marlstone clasts; gilsonite streaks common.
453.7	456.3	Oil Shale, light to medium olive brown, streaked and wavy bedding, fair competence, low grade; abundant white to tan marly streaks and blebs; trace gilsonite streaks; trace light blue gray granular anal-citized tuff streaks; a 0.2 band of light tan marlstone at 454.7 and 455.0.
456.3	461.5	Sandstone, fine to very fine grain, light brownish gray, massive, moderately sorted, dirty, salt and pepper, slightly calcareous; abundant disseminated pyrite; abundant carbonaceous flakes; trace gilsonite streaks; trace tan siltstone stringers.
461.5	466.9	Siltstone, very sandy, light brown to buff, massive, slightly calcareous; hard, brittle, poor competence; disseminated pyrite common; trace gilsonite streaks; trace black carbonaceous flakes; trace light brown fine grain sandstone stringers.
466.9	473.6	Sandstone, very fine grain, light to medium brown, massive, hard, brittle, fair competence, slightly calcareous; trace tan marly streaks and stringers; trace light olive brown oil shale stringers; trace gilsonite streaks; trace black carbonaceous flakes; a gilsonite stringer at 471.9; white to light brown marlstone with light olive brown stringers from 472.7-473.6. Top, Green River Formation 2 tongue at 473.6.
473.6	480.3	Oil Shale, light olive brown, streaked with wavy bedding, fair competence, low grade, marly; abundant light tan marlstone streaks and stringers; trace gilsonite streaks.
480.3	487.0	Oil Shale, marly; light gray brown to light olive brown, wavy with looped bedding, fair competence, very low grade; light tan marly streaks, stringers, and blebs common; medium olive brown oil shale streaks and stringers common; trace gilsonite streaks and stringers; .20 medium gray brown, calcareous siltstone band at 482.8.

from	To	
487.0	491.0	Marlstone, silty; light gray brown, wavy with trace even bedding, fair competence, trace kerogen; light tan marly streaks common; light gray brown massive calcareous siltstone bands .10 at 487.1, .10 at 488.7 and .20 at 490.5; trace gilsonite streaks; trace pyrite streaks; trace light olive brown oil shale streaks and stringers.
491.0	492.0	Siltstone, buff, massive, fair competence, calcareous, fairly hard, trace gilsonite streaks, trace asphaltic streaks.
492.0	498.1	Siltstone with numerous intermixed marlstone and very fine grain sandstone streaks and stringers; buff to light gray brown, wavy to irregular bedding, poor competence; trace scattered disseminated pyrite; few scattered pyrite blebs; abundant calcite on fracture at 493.3; numerous partings and fractures with pyrite; trace light olive brown oil shale stringers; from 496.0-497.8 fairly silty and brittle with numerous "poker chip" partings; 0.3 core loss from 497.8-498.1.
498.1	509.7	Marlstone, light brown to gray, even with looped and streaked bedding, poor competence, trace light olive brown oil shale stringers; light gray siltstone stringers and bands common; trace gilsonite streaks; trace kerogen from 505.7-506.8; .40 zone of light gray brown fine grain sandstone clasts at 509.0.
509.7	512.3	Marlstone, silty; light gray brown to buff, massive with some wavy bedding, poor competence; disseminated pyrite common; abundant pyrite on fractures; trace black carbonaceous flakes; 0.5 core loss from 511.8-512.3. Base Top, Green River Formation - 2 at 512.3'.
512.3	525.5	Sandstone and Siltstone, interbedded; Sandstone, very fine grain, light brown to gray, massive, poor competence, poorly sorted, dirty, fairly brittle, well consolidated, trace carbonaceous flakes; Siltstone, light brown to gray, massive, poor competence, slightly calcareous, fairly hard, well consolidated; 2.4 core loss from 513.1-515.5; 1.6 core loss from 515.9-517.5.
525.5	527.7	Sandstone, fine grain, light brownish gray, massive, very poor competence, poorly consolidated to slightly friable, slightly soft to slightly brittle; poorly sorted, dirty, trace carbonaceous flakes, slightly argillaceous.
527.7	534.3	Sandstone and Siltstone, interbedded; Sandstone, very fine grain, light brown to light gray, massive, poor competence, poorly sorted, fairly brittle, well consolidated, trace carbonaceous flakes; Siltstone, light brown to gray, massive, poor competence, slightly calcareous, fairly hard, well consolidated; asphalt on parting at 529.1 and 533.6.
534.3	542.4	Sandstone, fine grain, light brown to light gray, massive, poor competence, hard, well consolidated, subangular grain, poorly sorted, dirty; trace carbonaceous flakes; trace gilsonite streaks; .30 band of light brown to buff siltstone at 540.9.

From	To	
542.4	571.7	Sandstone and Siltstone, interbedded; Sandstone, very fine grain, light gray brown, massive, poor competence, poorly sorted, dirty, fairly argillaceous, hard, well consolidated; abundant gilsonite flakes; Siltstone, light brownish gray, massive, fairly hard, well consolidated, gilsonite flakes common; Sandstone, fine grain, light brownish gray, massive, poorly sorted, subangular, dirty, fairly hard, well consolidated, abundant gilsonite flakes and streaks, from 544.2-545.3, 545.6-545.9 and 559.0-559.3; abundant pyrite on fractures from 553.0-553.5; 0.60 core loss from 559.9-560.5; abundant pyrite on fractures from 567.3-571.3; 0.7 core loss from 567.7-568.4; 0.4 core loss from 571.3-571.7.
571.7	573.1	Sandstone, fine grain, light to medium brownish gray, subangular grain, dirty, poorly sorted, massive, poor competence, dirty, slightly calcareous, brittle, moderately hard; abundant gilsonite flakes; trace siltstone stringers; asphaltic staining on partings common.
573.1	584.6	Siltstone with Marlstone and Sandstone stringers and bands; Siltstone, light gray brown, massive, fair competence, hard, brittle; gilsonite flakes common; Marlstone, white to tan, irregular bedding; few associated medium olive brown oil shale stringers; Sandstone, very fine grain, light brownish gray, massive, fair competence, poorly sorted, dirty, gilsonite flakes common; pyrite common on fractures and partings; trace asphaltic streaks and blebs.
584.6	587.8	Marlstone, light greenish gray, even with wavy bedding, fair competence, trace kerogen; abundant white marlstone stringers and bands; light olive brown oil shale stringers common; light gray brown siltstone stringers common; .30 siltstone band at 586.8; trace gilsonite streaks.
587.8	605.9	Sandstone with interbedded Siltstone; Sandstone, fine grain, light brown gray, massive bedding, fair to good competence, subangular, poorly sorted, dirty, silty and argillaceous, slightly hard to slightly brittle, gilsonite flakes common, slightly calcareous; Siltstone, medium brown, massive, fair competence, fairly organic, gilsonite streaks common, hard and brittle; abundant asphalt on partings from 592.8-595.1; trace buff marlstone stringers.
605.9	616.3	Sandstone, fine to medium grain, light brown gray, massive; fair competence, subangular grains, poorly sorted, salt and pepper, dirty, slightly calcareous, slightly porous, fairly hard; abundant gilsonite flakes and streaks; numerous pinpoint pyrite blebs from 606.5-606.8; .10 zone of numerous gilsonite streaks at 606.8; a .10 zone of medium brown siltstone clasts at 606.9; abundant pyrite on fractures and partings; several scattered medium brown siltstone and black gilsonite stringers and bands from 614.3-615.7.

From	To	
616.3	626.7	Siltstone; light brown, medium brown and buff band; wavy to irregular bedding, very poor to poor competence; slightly calcareous; abundant finely disseminated asphalt flakes; fairly hard to slightly brittle; white marly bands and stringers common; pyrite common on partings and fractures; several scattered zones of pinpoint pyrite blebs; very fine to fine sandstone stringers and bands common from 616.3-619.0 and from 623.7-626.7; fine to medium grain sandstone from 624.5-625.7; several partings with asphalt coating.
626.7	632.7	Core Loss
632.7	646.8	Siltstone with Sandstone stringers and bands; Siltstone, medium brown, massive to wavy bedding, poor competence, fairly hard, brittle, abundant asphaltic flakes, disseminated gilsonite flakes common, Sandstone, very fine to fine grain, light brownish gray, massive, poor competence, subangular grain; abundant gilsonite flakes and streaks, finely disseminated pinpoint pyrite common; moderately hard, slightly brittle, slightly calcareous; abundant pyrite on fractures; trace asphalt streaks and blebs; a zone of fine grain Sandstone with medium brown Siltstone stringers and blebs from 643.7-644.9.
646.8	654.6	Sandstone, fine grain, light brown to gray, massive, subangular grain, poorly sorted, dirty, fair to good competence, moderately hard, slightly brittle, gilsonite flakes common; light to medium brown irregular Siltstone stringers common from 646.8-648.2; a 0.3 zone with tan to buff marlstone blebs and stringers at 647.0; a zone of light gray to brown massive Siltstone bands from 652.0-653.1; decreased to poor competence from 652.1-654.6.
654.6	659.8	Sandstone with Siltstone stringers and bands; Sandstone, fine grain, light brown gray, massive, good competence, subangular grains, poorly sorted, dirty, slightly calcareous, abundant gilsonite flakes, moderately hard and slightly brittle; Siltstone, light gray brown, massive, good competence, hard, brittle, slightly calcareous; several 0.05 stringers of highly concretionary gilsonite flakes, and a 0.1 band at 658.0, a 0.2 band at 658.3; a 0.05 buff marlstone clasts at 656.9; 0.1 zones of pinpoint pyrite at 654.9 and 655.9.
659.8	668.5	Sandstone, fine to medium grain, light brown gray, massive, good competence, subangular grains, poorly sorted, dirty, slightly calcareous, abundant gilsonite flakes, moderately hard to slightly brittle; .05 calcite clasts at 661.5 and at 662.3; zones of light to medium brown, massive, slightly calcareous, siltstone stringers and bands from 666.3-666.7, 667.0-667.6.
668.5	673.4	Siltstone with Sandstone stringers and bands; Siltstone, light gray brown, massive, good competence, hard, slightly calcareous; Sandstone, fine grain, light brown to gray, massive, good competence, subangular grains, poorly sorted, dirty, slightly calcareous, abundant gilsonite flakes, moderately hard to slightly brittle; trace gilsonite streaks; disseminated gilsonite flakes common; trace pyrite on fractures; 0.3 core loss from 670.5-670.8.

From	To	
673.4	676.7	Sandstone, medium to coarse grain, medium gray, massive, good to excellent competence, poor to moderately sorted; fairly hard, moderately porous, slight to moderately calcareous, well consolidated, abundant salt and pepper, abundant black biotite grain; subangular grain; abundant disseminated pinpoint pyrite blebs; numerous feldspar grain; few frosted light orange brown FeO stained grain; abundant asphalt streaks (plant leaf fossils on breaks); silty clay clasts and irregular stringers common from 674.8-675.7; several brown, very fine to fine grain sandstone bands, siltstone stringers and trace oil shale stringers from 676.2-676.7; Deltaic Dist. Channel. Top - Green River Formation 4 at 676.7.
676.7	681.7	Oil Shale, light olive brown to light gray brown, streaked with trace contorted and looped bedding, fair competence, very low to low grade; abundant tan to buff marly streaks, stringers, and blebs; medium to dark brown oil shale streaks and stringers common; .40 band of dark olive brown high grade oil shale at 681.3; trace gilsonite streaks; .05 band of light gray, kaolinite and calcite tuff band at 680.8.
681.7	693.6	Oil Shale, light to medium olive brown, even with streaked bedding, fair to good competence, low to medium grade; from 681.7-682.5 light brown vertically disturbed bedding with medium olive brown oil shale inclusions - bedding and deposition not conformable and is discontinuous with normal horizon. Oil Shale deposition; tan to buff marly streaks and stringers common from 685.8-687.0; few scattered tan marly streaks and stringers; trace gilsonite streaks and blebs; few scattered pyrite streaks and blebs; few scattered blue gray analcitized tuff streaks; several scattered tan to buff marlstone bands from 690.6-692.7; .05 blue gray analcitized tuff lens at 691.7; silty from 691.2-693.6.
693.6	707.9	Oil Shale, tuff and marly, light olive brown to light gray brown, streaked, even, and irregular bedding, fair to good competence, very low grade; trace gilsonite streaks; very tuffaceous from 695.6-696.1 with numerous light gray and dark green gray tuff streaks and stringers some with pyrite; .30 zone of medium to dark high grade oil shale stringers at 696.3; bedding inclined 15° from 697.6-700.2; 0.30 core loss from 700.2-700.5.
707.9	714.0	Oil Shale, light gray brown, even with few scattered zones of streaked bedding, very poor to poor competence, very low to low grade; numerous partings and scattered solution fractures with calcite and pyrite common and trace kaolinite; buff marly streaks and stringers common from 708.5-709.0, 712.4-713.2, and 713.6-713.8; trace gilsonite blebs and streaks.
714.0	733.0	Oil Shale, marly, light gray to brown, streaked, even, and wavy bedding, poor competence, very low grade; abundant light tan to buff marly streaks, stringers, and lamina; few scattered collapsed leached nahcolite zones; numerous partings and few scattered solution

From	To	
		fractures with calcite, pyrite, and trace kaolinite; trace scattered medium to dark olive brown high grade oil shale stringers and bands; trace scattered gilsonite streaks; few scattered light gray analcitized tuff streaks and stringers; bedding highly contorted from 717.3-717.9; very tuff from 720.7-; few scattered zones of blue gray, analcitized tuff stringers and bands from 723.4-724.9; irregular pyrite bleb at 724.5; pyrite blebs and lens common from 727.2-728.9; bed becomes silty from 728.9-732.7, irregular bedding throughout this zone; light blue gray to light gray brown calcareous tuff with numerous pyrite blebs and lens from 734.1-735.1.
733.0	760.8	Siltstone, light gray brown, massive, poor competence, hard, brittle, calcareous; numerous very fine grains, light brown to gray Sandstone stringers and bands; light olive brown oil shale streaks and stringers common; trace gilsonite streaks; trace pyrite streaks; abundant solution fractures with pyrite and calcite from 743.0-744.8; a 0.1 band of tan to buff marlstone with light olive brown oil shale stringers at 757.8; a 0.4 band of fine grain light brown gray Sandstone at 756.9; a 0.4 band of tan buff marlstone with light olive brown oil shale and fine grain sandstone stringers at 759.0; grades to sandy siltstone with irregular marlstone clasts and stringers at 759.4; a 0.2 core loss from 745.6-745.8.
760.8	768.0	Siltstone, sandy, massive, poor to fair competence, moderately hard, brittle, slightly calcareous; abundant gilsonite flakes; tan to buff marlstone clasts common; abundant pyrite on fracture surfaces; trace gilsonite streaks; increasingly marly from 764.9-766.6.
768.0	783.1	Siltstone, light gray brown, massive, poor to fair competence, slightly calcareous, tan to buff marlstone stringers common; trace medium olive brown oil shale stringers; a few scattered 0.05 light brown to gray fine grain sandstone bands and a 0.5 bed at 770.2; abundant pyrite on fracture surfaces; an irregular pyrite bleb at 778.7.
783.1	807.5	Siltstone with few interbedded Sandstone and Marlstone beds; Siltstone, light to medium gray brown, irregular, wavy and massive bedding, poor to fair competence, slight to very calcareous, hard, slightly brittle, fairly organic; Sandstone stringers and bands, very fine grain, light gray to buff, massive to irregular, moderately calcareous, poorly sorted, dirty, salt and pepper, fairly hard, Marlstone stringers and bands, light gray brown and light buff, irregular bedding, fair competence, trace kerogen; numerous scattered oil shale stringers; trace scattered gilsonite streaks, few scattered pinpoint pyrite streaks and blebs; pyrite common on partings and fractures; from 787.6-788.4 Sandstone, very fine grain, grading to fine graded at base. Light brownish gray to buff, massive with trace even bedding, abundant disseminated gilsonite flakes, numerous gilsonite stringers from 777.8-778.0; from 791.2-792.1 numerous irregular, very fine graded sandstone stringers; grades to silty marlstone from 797.8-801.5; a 0.3 zone of sandy siltstone with silty marlstone clasts at 801.6

From	To	
		Numerous light brownish gray to buff, very fine grain, Sandstone bands and stringers from 802.5-805.2; numerous gilsonite stringers and lens from 804.2-805.2; abundant dark brown, fairly organic, siltstone stringers from 805.2-807.5; a 0.7 core loss from 793.9-794.6; from 806.3-806.8 a medium gray brown sandy siltstone with massive bedding and several silty marlstone clasts and streaks.
807.5	820.3	Siltstone, light to medium gray brown, massive with even and irregular bedding, fair to good competence, fairly organic, moderate to very calcareous; numerous scattered irregular oil shale stringers; abundant disseminated gilsonite flakes; irregular gilsonite stringer at 808.2; a 0.20 band of dark brown organic rich siltstone at 808.3; several pyrite blebs at 808.3 and 808.5; few scattered very fine grained buff sandstone stringers; core loss 0.3 from 810.7-811.0; abundant pyrite on fracture surfaces; from 815.8-816.6 a light brown gray fine grain sandstone with siltstone stringers; from 819.0-819.4 a zone of abundant tan to buff marlstone stringers.
820.3	825.0	Oil Shale, light olive brown to light gray brown, even with trace irregular bedding, fair to good competence, very low grade, marly; abundant tan to buff marlstone stringers and bands; pyrite streaks and stringers common; trace light gray brown siltstone stringers; trace gilsonite streaks; from 821.1-822.2 light tan to buff marlstone with light olive brown oil shale stringers and with a trace of kerogen.
825.0	832.8	Siltstone, light brown gray, massive with trace irregular bedding, poor competence, moderately calcareous, slightly hard, slightly sandy; abundant pyrite on fracture surfaces; trace gilsonite streaks; trace light olive brown oil shale stringers; trace tan to buff marlstone stringers; an irregular pyrite stringer at 827.6; from 828.1-829.0 a low grade bed with abundant tan to buff marly stringers; pyrite streaks and blebs common; a pyrite nodule at 831.5; from 832.2-832.8 a zone of abundant light blue gray analcitized tuff stringers, some with pyrite.
832.8	837.6	Marlstone, light tan to buff, irregular bedding, poor to fair competence, trace kerogen; light olive brown low grade oil shale stringers common; trace pyrite stringers; trace gilsonite streaks; from 834.5-835.5 a light gray brown siltstone; from 837.4-837.6 abundant 0.05 medium brown richly organic siltstone stringers; abundant pyrite on fracture surfaces; some asphalt on partings.
837.6	847.1	Siltstone, light brownish gray, massive to wavy bedding, fair competence, moderately calcareous, fairly hard, brittle; from 838.0-838.6 a zone of irregular 0.05 tan to buff marlstone stringers; an irregular pyrite streak at 838.8; from 840.0-842.8 wavy bedded tuff with numerous tan to buff marlstone stringers and a few scattered light brown to gray fine grain sandstone stringers; a 0.3 band of golden brown marlstone at 841.4; abundant irregular pyrite stringers from 840.7-842.7; abundant pyrite on fracture surfaces; tan to buff marlstone and light olive brown oil shale stringers common from 843.9-845.3.

From	To	
847.1	855.5	8.4 core loss
855.5	882.8	Siltstone with Marlstone; and Sandstone stringers and bands; Siltstone, medium gray to brown, massive, fair competence, with trace irregular bedding, slightly calcareous, moderately hard and brittle; Marlstone, light tan to buff, wavy and irregular bedding, good to excellent competence, trace kerogen, light olive brown low grade oil shale stringers common; Sandstone stringers and bands, very fine to fine grain, light brownish gray and medium gray brown, massive, good competence, sub-angular grains, poorly sorted, dirty, slightly calcareous, slightly hard, abundant disseminated gilsonite; abundant pyrite on fracture surfaces, some solution fractures with minor evidence collapsed leached nahcolite; light gray massive tuff with irregular siltstone stringers, irregular asphalt stringers and trace marlstone clasts from 855.5-856.1, and from 857.8-858.7; bedding inclined at 45° from 861.6-863.8; a zone interbedded siltstone, irregular sandstone stringers and irregular marlstone clasts from 866.1-866.5; zone of abundant irregular pyrite stringers from 870.1-871.3; .05 stringer of abundant gilsonite flakes at 880.0; from 881.0-881.7 grades to marly siltstone with abundant asphalt stringers; 0.1 irregular pyrite bleb at 872.7. Top A Groove and Top Green River Formation at 882.8.
882.8	895.9	Marlstone, light brownish gray to buff, even with trace looped and irregular bedding, poor to fair competence, trace kerogen; light olive brown, low grade oil shale stringers common; trace gilsonite streaks; from 883.2-883.7 zone of irregular medium brown siltstone and light olive brown oil shale stringers; from 884.5-885.5 light gray to brown, massive tuff with irregular siltstone and pyrite stringers; from 855.5-856.3 low grade oil shale with abundant marlstone streaks and stringers; from 886.7-887.8 zone of abundant pyrite streaks and lamina; numerous planar partings with some calcite, gilsonite, and pyrite; .05 light blue gray granular analcitized tuff stringer at 892.9.
895.9	900.1	Oil Shale with some interbedded Marlstone; Oil Shale, light olive brown, even with trace irregular bedding, good competence, low grade; Marlstone, light tan to buff, even to irregular bedding, good competence, trace kerogen; few scattered light brown tuff stringers with pyrite rims; trace gilsonite streaks; .05 band of dark olive brown high grade oil shale at 896.4.
900.1	909.4	Marlstone, buff, even bedding, good competence, abundant altered pyrite streaks, stringers, and lamina; few scattered .10 light gray granular tuff stringers; .20 black irregular altered pyrite patch with brecciated and recemented marlstone fragments at 908.8. 909.4 Base A Groove/ Top Mahogany zone

From	To	
909.4	913.3	Oil Shale, light olive brown, even with trace irregular bedding, excellent competence, low grade; buff marly streaks, stringers, and blebs common; trace light gray granular tuff streaks; trace pyrite streaks; slightly brecciated and recemented with irregular marlstone clasts and irregular pyrite streaks from 910.0-910.5.
913.3	921.3	Oil Shale, light to medium olive brown, streaked and even bedding, excellent competence, low grade; trace light blue gray analcitized tuff streaks; trace buff marlstone streaks; trace gilsonite streaks; dark mahogany brown to black high grade oil shale bands .05 at 913.3, .10 at 914.5 and a bed from 915.2-916.1; .10 marlstone band at 915.1; a 0.2 medium brown tuff band at 918.0; trace medium brown pyrite tuff stringers and streaks; a 0.3 dark brown massive tuff at 920.5.
921.3	925.1	Oil Shale, light olive brown to light gray brown, even with looped bedding, fair competence, very low grade; abundant buff marly stringers and bands; light olive brown low grade oil shale streaks and stringers common; light blue gray granular analcitized tuff streaks common; trace white kaolinitic tuff streaks; grades to low grade from 924.1-925.1; a 0.1 light brown asphaltic tuff band at 924.9.
925.1	931.2	Oil Shale, medium to dark olive brown, even with looped bedding, poor to fair competence, medium to high grade; trace light tan marly streaks and stringers; a 0.2 light brown tuff band at 925.3; 0.2 light brown tuff band at 926.1; several irregular pyrite stringers at 926.3; grades to low to medium from 930.1-931.2; gradational contact.
931.2	933.7	Oil Shale, dark olive brown to black, even with looped bedding; fair competence, high to very high grade; trace medium brown tuff stringers and blebs, trace light blue gray granular analcitized tuff stringers; trace gilsonite streaks.
933.7	948.9	Oil Shale, light olive brown, even with trace streaked bedding, excellent competence, low to medium grade; trace white kaolinitic tuff stringers, trace light blue gray and brown tuff stringers, trace gilsonite streaks, trace dark olive brown oil shale streaks and stringers; .7 core loss from 943.2-943.9; evidence of collapsed leached nahcolite at 943.9; trace pinpoint calcite.
948.9	954.7	Oil Shale, light olive brown, streaked and even bedding, good competence, low grade; trace buff marly streaks and stringers, light blue gray granular analcitized tuff streaks common; trace gilsonite streaks, medium brown massive tuff with numerous medium olive brown oil shale streaks and stringers from 950.2-951.3
954.7	958.7	Oil Shale, light to medium olive brown, even with trace looped bedding, good competence, low to medium grade, light blue gray granular analcitized tuff streaks, light blue gray massive calcareous tuff, 958.0-958.7, .2 band light blue gray massive calcareous tuff at 955.6.

From	To	
958.7	960.2	Oil Shale, light olive brown, even and looped bedding, good to excellent competence, low grade; trace light blue gray granular analcitized tuff streaks, trace dark olive brown streaks and stringers, trace gilsonite streaks.
960.2	962.2	Tuff, light gray brown, massive, calcareous, abundant dark olive brown high grade oil shale streaks and stringers, trace tan marly streaks and stringers.
962.2	964.5	Oil Shale, light olive brown, light gray brown, even and streaked bedding, good competence, very low to low grade; abundant buff marly streaks and stringers, trace dark olive brown high grade oil shale stringers; trace gilsonite streaks, .3 band medium gray brown massive calcareous tuff at 963.6.
964.5	965.5	Oil Shale, dark olive brown, black, even with trace looped bedding, good competence, high grade; light gray brown tuff stringers and bands common, trace buff marly streaks, trace gilsonite streaks.
965.5	968.8	Oil Shale, medium to dark olive brown, even with trace looped bedding, good competence, high grade; trace buff marly streaks and lamina; trace gilsonite streaks; trace light blue gray granular analcitized tuff streaks; gradational contact.
968.8	973.5	Oil Shale, light to medium olive brown, even with trace streaked and looped bedding, good to excellent competence, medium grade; trace buff marly streaks and lamina; trace dark olive brown high grade oil shale stringers and lamina; light blue gray granular analcitized tuff streaks common; a 0.05 white to buff kaolinitic tuff lens at 970.0; trace light brown tuff streaks and blebs; a 0.2 band of dark olive brown high grade oil shale at 972.6.
973.5	984.8	Oil Shale, dark olive brown to dark mahogany brown, streaked and even bedding, poor to fair competence, very high grade; trace buff marly stringers and blebs; medium brown asphaltic tuff streaks and blebs common; trace gilsonite streaks; a 0.2 light brown massive tuff band at 970.7; grades to medium from 976.5-977.4; from 977.4-981.3 zone of numerous light brown interbedded tuff bands; a 0.3 light gray brown massive tuff at 983.2; numerous partings from 981.3-984.8; core breaks easily by hand.
984.8	985.9	Tuff, light gray brown, massive, calcareous; dark olive brown oil shale streaks common.
985.9	989.6	Oil Shale, dark mahogany brown to black, streaked with even bedding, good competence, very high grade; trace gilsonite streaks; trace buff marly streaks; trace light blue gray granular analcitized tuff streaks; gradational contact.

From	To	
989.6	997.2	Oil Shale, medium to dark olive brown, even with looped bedding, good competence, high grade; trace buff marly streaks; trace gilsonite streaks; medium brown asphaltic tuff stringers common; trace light blue gray granular analcitized tuff streaks; trace irregular pyrite lens; a 0.3 band of dark mahogany brown very high grade oil shale at 990.2; a 0.2 band medium to dark brown calcareous tuff at 990.5.
997.2	998.8	Oil Shale, dark mahogany brown to black, streaked with trace even bedding, fair competence, very high grade; trace buff marly streaks; trace medium brown asphaltic tuff streaks and blebs; trace gilsonite streaks; gradational contact.
998.8	1007.3	Oil Shale, light to medium olive brown, even with trace looped bedding, good competence, medium grade; medium brown asphaltic tuff streaks and lens common; trace buff marly streaks; trace light blue gray granular analcitized tuff streaks; leached nahcolite vugs at 1005.5; gradational contact.
1007.3	1010.8	Oil Shale, dark olive brown, streaked with even and looped bedding, excellent competence, high to very high grade; trace buff marly streaks, stringers, and blebs; medium brown asphaltic tuff stringers and lens common; trace gilsonite streaks and blebs; trace irregular pyrite lens.
1010.8	1017.5	Oil Shale, light to medium olive brown, even with trace looped bedding, good to excellent competence, medium grade; trace tan marly stringers; light greenish gray pyrite lamina common; trace medium brown asphaltic tuff lens; trace gilsonite streaks; trace irregular pyrite lens; a 0.1 leached nahcolite vug with associated pyrite rims at 1015.7; gradational contact.
1017.5	1022.8	Oil Shale, light olive brown, even with trace looped and offset bedding, poor to fair competence, low to medium grade; trace light brownish gray granular tuff streaks; trace tan marly streaks; from 1019.4-1020.2 light brownish gray massive tuff with irregular light olive brown oil shale stringers; a 0.9 core loss from 1018.5-1019.4 with evidence of leached nahcolite vugs on top and bottom of loss; abundant solution fractures from 1020.2-1021.2; a 0.2 leached nahcolite vug at 1022.2.
1022.8	1024.4	Oil Shale, medium olive brown, streaked contorted bedding, excellent competence, medium to high grade; trace buff marly streaks; trace gilsonite streaks; trace medium brown asphaltic tuff streaks; a 0.1 leached nahcolite vugs with associated pyrite at 1024.2.
1024.4	1025.9	Oil Shale, dark olive brown, even with trace looped bedding, good to excellent competence, high grade; trace medium brown asphaltic tuff streaks and stringers; trace buff marly streaks; a 0.4 core loss from 1025.1-1025.5; gradational contact.

From	To	
1025.9	1031.2	Oil Shale, light to medium olive brown, even with trace looped bedding, fair competence, low to medium grade; light greenish gray pyrite lamina common; trace light blue gray granular analcitized tuff streaks; trace gilsonite streaks; trace irregular pyrite lens; solution fractures common from 1029.0-1030.0.
1031.2	1037.7	Oil Shale, medium olive brown streaked with trace even bedding, fair competence, medium to high grade; gilsonite streaks common; asphaltic streaks common; trace buff marly streaks; trace medium brown asphaltic tuff streaks; a 0.3 leached nahcolite vug with associated pyrite rims at 1032.6; abundant irregular pyrite stringers on solution fractures from 1035.5-1037.0; 0.4 core loss from 1035.1-1035.5.
1037.7	1039.9	Oil Shale, medium to dark olive brown, even with trace looped bedding, excellent competence, high grade; trace gilsonite streaks; trace medium brown asphaltic tuff streaks; trace asphaltic streaks.
1039.9	1047.2	Oil Shale, light to medium olive brown, streaked with trace even bedding, poor to fair competence, medium grade; buff marly streaks common; asphaltic streaks common; trace gilsonite streaks; trace medium brown asphaltic tuff streaks; a 0.4 core loss at 1044.5-1044.9; 0.1 leached nahcolite vug at 1044.9; a 0.05 irregular pyrite bleb at 1046.5; a 0.05 leached nahcolite vug at 1047.1; gradational contact.
1047.2	1059.0	Oil Shale, light to medium olive brown, even with trace streaked bedding, poor competence, low to medium grade; asphaltic streaks common; gilsonite streaks common; trace buff marly streaks and blebs; trace irregular pyrite lens; solution fractures common from 1049.4-1051.5; a 0.2 leached nahcolite vug at 1048.8 and 1049.0; calcite common on fractures; a 0.6 core loss from 1054.9-1055.5; a 0.5 core loss from 1058.5-1059.0; evidence of leached nahcolite vug at 1059.0.
1059.0	1061.5	Oil Shale, dark olive brown to dark gray brown, even with trace looped bedding, good competence, high grade; gilsonite streaks common; trace asphaltic streaks; trace buff marly streaks and lamina; a 0.05 medium brown asphaltic tuff stringer at 1060.2; abundant pyrite on fracture surfaces; gradational contact.
1061.5	1067.0	Oil Shale, light to medium olive brown, even with trace streaked and contorted bedding, poor to fair competence, medium grade; trace buff marly streaks and blebs; trace gilsonite streaks; zone of irregular pyrite stringers from 1063.3-1063.7; a 0.05 irregular pyrite nodule at 1063.2; a 0.1 medium brown asphaltic tuff lens at 1063.6; abundant partings from 1064.0-1064.8; core breaks easily by hand, abundant rubble from 1065.5-1067.0. Probably drilling over solution fracture zone and solution breccia with abundant evidence of collapsed leached nahcolite.

From	To	
1067.0	1071.8	Oil Shale, medium olive brown to medium gray brown, irregular with streaked bedding, good competence, medium grade; trace gilsonite streaks; trace asphaltic streaks; trace buff marly streaks and blebs; several pyrite streaks, stringers, and blebs, from 1067.6-1069.6 zone of 0.05 and 0.1 diameter leached nahcolite vug with associated pyrite rims and several partings with evidence leached nahcolite vug; from 1067.7-1068.5 zone dark brown asphaltic tuff stringers and .05 bands.
1071.8	1077.0	Oil Shale, medium olive brown to medium gray brown, even with trace wavy bedding, fair to good competence, medium grade; pyrite streaks and stringers common; trace buff marly streaks and stringers; 0.2 pyritic asphalt tuff band at 1073.6; 0.2 asphaltic tuff nodule at 1073.7; from 1072.9-1074.9 numerous partings, many with pyrite and kaolinite; 0.1 dark olive brown high grade oil shale band at 1075.2; .05 asphaltic tuff band at 1072.3.
1077.0	1078.8	Oil Shale, dark olive brown, streaked, even, and wavy bedding, good competence, high grade; trace pyrite streaks; trace gilsonite streaks; solution fracture from 1078.5-1078.8.
1078.8	1081.5	Oil Shale, light gray brown to light olive brown, even with trace looped and wavy bedding, fair competence, low grade; several scattered zones of collapsed leached nahcolite; pyrite streaks and stringers common; trace buff marly streaks and stringers; numerous partings, many with kaolinite and pyrite; trace gilsonite streaks.
1081.5	1083.5	Oil Shale, light olive brown to light gray brown, even bedding, poor competence, low grade; several zones of leached nahcolite vug; abundant partings and solution fractures with pyrite, kaolinite, and collapsed leached nahcolite; trace pyrite streaks.
1083.5	1086.3	Oil Shale, light olive brown, even with looped bedding, poor competence, low grade; buff marly streaks and stringers common; several pyrite streaks and stringers, trace gilsonite streaks; abundant pyrite on fracture surfaces; several solution fractures and partings with abundant pyrite.
1086.3	1087.7	Oil Shale, dark olive brown, even bedding, poor competence, high grade; numerous partings and solution fractures, pyrite and kaolinite; trace asphalt streaks; 0.2 band of dark mahogany brown very high grade oil shale at 1086.3; gradational contact.
1087.7	1190.6	Oil Shale, medium olive brown, even with irregular bedding, poor to fair competence, medium grade; abundant calcite sealed solution fractures with evidence of collapsed leached nahcolite and some pyrite; trace asphalt streaks; gradational contact.

From	To	
1190.6	1092.5	Oil Shale, light brown, even with abundant irregular and offset bedding, poor to fair competence, very low to low grade; slightly marly; abundant solution fractures and calcite sealed hairline fractures with abundant collapsed leached nahcolite; several scattered irregular pyrite streaks and blebs associated with collapsed leached nahcolite.
1092.5	1094.4	Marlstone, light gray brown to buff, even to nearly massive, very poor to poor competence, trace kerogen, fairly brittle; abundant evidence collapsed leached nahcolite and several scattered solution breccia's; a 0.10 buff soft clay band at 1093.4, at 1093.8, and at 1094.1; a 0.05 white kaolinitic tuff stringer at 1093.7.
1094.4	1097.8	Oil Shale, medium olive brown, even with streaked, looped, and irregular bedding, fair competence, medium grade from 1094.4-1096.8, medium to high grade from 1096.8-1097.8; solution fractures with collapsed leached nahcolite common; a 0.20 medium brown asphaltic tuff band at 1096.5; from 1097.0-1097.8 numerous medium brown asphaltic irregular tuff stringers and bands; a 0.05 buff marly band at 1097.7; 0.4 core loss from 1095.1-1095.5.
1097.8	1101.2	Tuff with intermixed oil shale, medium olive brown to medium brown, wavy to irregular bedding, good to excellent competence, low to medium grade; slight to moderately calcareous in partings; very asphaltic tuff material; abundant dark olive brown to black irregular oil shale streaks and stringers; several scattered small partly collapsed leached nahcolite vugs; few scattered asphalt streaks and blebs.
1101.2	1102.3	Oil Shale, dark olive brown with trace light olive brown banding, even with trace looped bedding, fair competence, medium to high grade; several scattered solution fractures and partings with pyrite; pyrite streaks and stringers common; asphalt on few partings and solution fractures; gradational contact.
1102.3	1109.0	Oil Shale, light olive brown to medium olive brown and medium gray brown, even with some streaked, looped, and irregular bedding, poor to fair competence, low to medium grade; a 0.20 solution breccia zone at 1103.8; from 1104.4-1109.0 numerous solution fractures with collapsed leached nahcolite, calcite sealed fractures and some pyrite and asphalt; few scattered zones of pyrite streaks; streaked bedding from 1103.5-1104.4; a 0.3 core loss from 1105.2-1105.5; from 1106.6-1107.0 light brown to buff, massive, granular, brittle, slightly asphaltic tuff; abundant evidence partly collapsed leached nahcolite vugs; few scattered thin solution breccia zones.
1109.0	1118.1	Oil Shale, light olive brown and light to medium brown, even bedding with massive zones, very poor to poor competence, very low to low grade from 1109.0-1110.3, low to medium grade from 1110.3; abundant solution fractures with calcite sealed fractures and evidence of collapsed leached nahcolite; rubble from 1109.7-1110.8 - probably drilling in poorly consolidated solution breccia; 0.8 core loss from 1110.8-1111.5; pyrite and kaolinite common in solution fractures and solution breccia zones; .35 zone of leached disseminated nahcolite

From	To	
		at 1112.3; solution breccia zones from 1112.8-1113.0, 1114.3-1114.7, and 1117.2-1117.5; several scattered thin stringers of solution breccia; grades to buff claystone from 1113.7-1114.0 and .10 at 1116.4.
1118.1	1120.3	Oil Shale, medium olive brown, even with streaked bedding, poor to fair competence, medium to high grade; numerous solution fractures with calcite, kaolinite, and pyrite; trace gilsonite streaks.
1120.3	1123.2	Core Loss 2.9
1123.2	1126.4	Oil Shale, light olive brown to light gray brown, even with trace streaked bedding, poor competence, low grade; abundant pyrite stringers and lamina; numerous partings and few solution fractures with pyrite, kaolinite, and collapsed leached nahcolite; trace gilsonite streaks.
1126.4	1130.9	Oil Shale, light olive brown to light gray brown, even with trace streaked bedding, poor competence, very low grade; pyrite streaks and lamina common; trace gilsonite streaks; abundant partings and solution fractures with pyrite and kaolinite; a light tan marlstone bed from 1128.2-1129.1; a 0.2 light blue gray granular analcitized tuff band at 1128.7; gradational contact.
1130.9	1136.4	Oil Shale, light olive brown, even with trace streaked bedding, poor competence, low grade; abundant pyrite streaks and lamina; trace gilsonite streaks; a 0.5 light blue gray granular analcitized tuff band at 1132.8; gilsonite common on solution fractures from 1131.6-1133.2; abundant solution fractures and solution breccia with pyrite collapsed leached nahcolite from 1133.3-1136.4; abundant pinpoint calcite from 1136.0-1136.4. Top "B" Groove at 1136.4.
1136.4	1145.2	Marlstone, light brown to gray, nearly massive bedding, very poor to poor competence; abundant pyrite stringers and lamina; light olive brown oil shale streaks and bands common; abundant pinpoint calcite, from 1137.5-1140.2 zone heavy solution breccia, poorly recemented making marlstone appear as mudstone; from 1140.2-1145.2 zone of heavy solution fractures and poker chip with collapsed leached nahcolite and pyrite.
1145.2	1150.2	Marlstone, light brown gray, massive to nearly even bedding, poor competence; abundant pinpoint calcite from 1145.2-1145.5; zone of partly collapsed pinpoint vugs from 1145.5-1146.5; numerous planar partings with pyrite; slightly argillaceous; several pyrite streaks, stringers, and blebs; 0.05 pyrite nodule at 1149.7; trace pyritic tuff stringers; 0.4 core loss from 1149.8-1150.2; abundant disseminated pyrite.
1150.2	1152.3	Oil Shale, argillaceous, light gray brown, even with trace irregular and massive bedding, fair competence, very low grade; several partings, some with pyrite, some with collapsed leached nahcolite; trace asphaltic

From	To	
		tuff stringers and streaks; .2 zone of irregular calcite streaks and stringers at 1151.4; trace asphalt streaks; trace calcite blebs; .2 zone of pinpoint calcite at 1151.8; trace pyrite streaks and stringers; trace gilsonite streaks.
1152.3	1154.5	Mudstone, clayish; Mudstone, from 1152.3-1153.4, light brown-gray to gray, massive, brecciated and recemented, calcareous, very good competence, disseminated pyrite; clayish from 1153.4-1154.0, light brown gray to gray, even bedding, poor competence, moderately calcareous, numerous shaly partings; 0.2 light brown gray claystone band at 1154.0; 0.2 light gray brown partly analcitized, partly asphaltic tuff band at 1154.3.
1154.5	1159.3	Oil Shale, medium to dark olive brown, streaked to wavy with trace even and irregular bedding, fair to good competence, medium grade; .4 zone of pinpoint calcite at 1154.5; scattered 0.1 and 0.5 leached nahcolite vugs; zone of 0.1 leached nahcolite vug from 1156.0-1156.5, trace parting associated with collapsed leached nahcolite; trace oil streaks; trace analcitized tuff blebs; trace buff marly streaks and stringers; 0.5 core loss from 1158.0-1158.5.
1159.3	1163.4	Oil Shale, light olive brown to light gray brown, even with trace looped bedding, poor competence, very low grade; marly; numerous planar partings; trace 0.05 leached nahcolite vugs; 0.1 dark olive brown oil shale band at 1161.6; pyrite streaks and stringers common; 1161.8-1162.2 buff marlstone; trace gilsonite streaks.
1163.4	1167.2	Oil Shale, medium olive brown, streaked with trace even bedding, poor competence, medium to high grade; several scattered buff marly blebs; trace blue gray analcitized and white tuff blebs; trace gilsonite streaks; .04 core loss from 1165.1-1165.5.
1165.5	1167.7	Oil Shale, light to medium olive brown, even bedding, poor to fair competence, low grade; numerous partings; trace gilsonite streaks; trace 0.05 leached nahcolite vugs; trace asphalt streaks; trace dark olive brown oil shale stringers; several pyrite streaks and stringers; gradational contact.
1167.7	1169.9	Oil Shale, medium olive brown, even bedding, fair to good competence, medium grade; trace blue gray angular analcitized tuff blebs; several pyrite streaks and stringers; trace gilsonite streaks; trace asphaltic tuff stringers.
1169.9	1173.4	Oil Shale, light olive brown to light gray brown, even with trace irregular bedding, good competence, very low to low grade; pyrite streaks, stringers, and blebs common; 3 pyrite nodules at 1171.0; trace gilsonite streaks; 0.1 tan tuff band at 1170.8 and 1171.2, 0.2 band at 1172.8; 0.5 asphaltic tuff lens at 1173.2.

From	To	
1173.4	1175.5	Oil Shale, light olive brown, even with trace looped bedding, good competence, low grade; 0.05 leached nahcolite vug at 1173.4; several buff marly streaks and stringers; pyrite streaks and stringers common; trace gilsonite streaks; 2 pyritic nodules at 1174.0; pyritic tuff lens at 1175.0; 0.2 pyritic tuff band at 1175.3; 0.1 white tan buff band at 1173.4.
1175.5	1178.7	Oil Shale, dark olive brown and medium olive brown band, even bedding, good competence, medium grade; pyrite streaks and stringers common; trace gilsonite streaks; trace asphaltic tuff streaks; 0.05 granular tuff lens at 1175.9; few white fine grain tuff stringers.
1178.7	1180.8	Oil Shale, light gray brown, even bedding, poor competence, very low grade; numerous partings and fractures; evidence of collapsed leached nahcolite from 1180.1-1180.4; 0.1 white fine grain tuff band at 1179.9; pyrite streaks and stringers common; trace gilsonite streaks.
1180.8	1184.6	Core Loss 3.8'
1184.6	1189.4	Oil Shale, light gray brown, streaked bedding, poor competence, very low grade; from 1184.6-1186.6, very poor competence with evidence of collapsed leached nahcolite; trace gilsonite streaks; several pyrite streaks and stringers; several asphaltic tuff stringers; 0.15 leached nahcolite vug at 1187.2; 0.6 core loss from 1188.7-1189.3.
1189.4	1191.5	Oil Shale, light gray brown with medium olive brown banding, even bedding, poor competence, low grade; several partings with some calcite; pyrite streaks and stringers common; trace asphaltic tuff stringers; trace gilsonite streaks; white and blue gray calcite and analcitized tuff blebs at 1189.8; calcite streak at 1190.9.
1191.5	1193.1	Oil Shale, medium to dark olive brown, looped and irregular bedding with trace streaked bedding, good to excellent competence, medium to high grade; trace scattered gilsonite streaks; trace scattered light blue gray analcitized tuff blebs and streaks; a 0.20 zone of dark gray pyritic tuff streaks at 1192.0.
1193.1	1204.8	Oil Shale, light olive brown with few medium olive brown bands, even with looped bedding, good competence, low to medium grade; several scattered faintly light to gray pyrite stringers and lamina; trace scattered gilsonite streaks; few scattered blue gray analcitized tuff stringers; several 0.1 leached nahcolite vugs with associated pyrite rims from 1197.1-1199.1; abundant kaolinite on fracture surfaces; trace asphalt streaks; a 0.1 leached nahcolite vug with associated pyrite rim at 1203.4 and at 1203.6; trace buff marly streaks.

From	To	
1204.8	1209.7	Oil Shale, medium olive brown, streaked with trace contorted bedding, fair competence, medium grade; trace tan to buff marly streaks; medium greenish gray pyrite streaks common; medium brown asphaltic tuff streaks and stringers common; trace gilsonite streaks; trace asphalt streaks; abundant kaolinite on fracture surfaces; trace light blue gray granular analcitized tuff streaks; a 0.1 leached nahcolite vug with associated pyrite rim at 1207.2, 0.2 at 1208.8, 0.2 at 1209.4.
1209.7	1211.7	Oil Shale, light olive brown to light gray brown, even with trace streaked bedding, good competence, very low to low grade; trace buff marly streaks and lamina; few small irregular pyrite stringers; trace medium brown asphaltic tuff streaks.
1211.7	1218.3	Oil Shale, medium olive brown, streaked with trace contorted bedding, good competence, medium to high grade; buff marly streaks and blebs common; trace gilsonite streaks; trace pyrite streaks; trace small irregular pyrite nodules; trace medium brown asphaltic tuff streaks; several 0.2 leached nahcolite vug with associated pyrite rims from 1213.3-1215.4 and from 1215.7-1216.2.
1218.3	1219.9	Oil Shale, medium olive brown light olive brown and light gray brown banded, even with trace looped bedding, good competence, low to medium grade; trace buff marly streaks and lamina; greenish gray pyrite lamina common; a 0.05 light brown granular tuff lens at 1218.9; a 0.2 band of dark olive brown high grade oil shale at 1219.6.
1219.9	1230.3	Oil Shale, light olive brown to light gray brown, even and contorted bedding, poor to fair competence, very low grade; slightly marly; trace dark olive brown high grade oil shale stringers; trace gilsonite streaks; trace asphaltic streaks; pyrite stringers and lamina common; abundant kaolinite on fracture surfaces; a 0.1 leached nahcolite vug with associated pyrite rim at 1220.8; bedding becomes highly contorted from 1229.2-1230.1; a 0.2 band of medium olive brown medium grade oil shale at 1228.6; increase in competence from 1227.7-1230.3; 2.3 core loss from 1223.3-1225.6.
1230.3	1234.6	Oil Shale, light to medium olive brown, irregular bedding, fair to good competence, low to medium grade; abundant dark olive brown high grade oil shale streaks and stringers; trace buff marly streaks and blebs; trace medium brown asphaltic tuff streaks; a 0.1 golden brown marlstone band at 1232.8.
1234.6	1236.8	Oil Shale, light olive brown to light gray brown, streaked and even bedding, good competence, very low to low grade; pyrite streaks and lamina common; trace buff marly streaks and lamina; trace gilsonite streaks; trace dark olive brown high grade oil shale streaks; abundant kaolinite on parting surfaces; gradational contact.

From	To	
1236.8	1239.8	Oil Shale, dark olive brown, even with trace looped bedding, good competence, high grade; trace greenish gray pyrite lamina; trace gilsonite streaks; trace medium brown asphaltic tuff streaks and nodules; a 0.05 dark greenish gray irregular pyrite lens at 1238.4; a 0.2 medium brown asphaltic tuff band at 1239.0; gradational contact.
1239.8	1246.3	Oil Shale, light olive brown to light gray brown, even bedding, fair competence, very low to low grade; slightly marly; greenish gray pyrite streaks and lamina common; white kaolinite tuff stringers common; trace gilsonite streaks; trace buff marly streaks; trace dark olive brown high grade oil shale lamina; from 1242.9-1244.4 zone of heavy solution fractures and poker chip with kaolinite, pyrite, and collapsed leached nahcolite; core breaks easily by hand; a 0.4 core loss from 1245.1-1245.5.
1246.3	1249.9	Oil Shale, medium olive brown, dark olive brown, and light olive brown bands; even wavy trace streaked bedding, good to excellent competence, from 1246.3-1247.3 high grade, from 1247.3-1248.2 low grade, and from 1248.2-1249.9 high to very high grade; trace buff marly streaks and lamina; trace gilsonite streaks; trace pyrite streaks and lamina; a 0.05 medium greenish gray pyrite band at 1248.5; trace medium brown asphaltic tuff streaks; a 0.1 medium brown asphaltic tuff stringer at 1247.6.
1249.9	1252.1	Oil Shale, medium to dark olive brown, streaked with trace looped bedding, good to excellent competence, medium to high grade; buff marly streaks and blebs common; dark olive brown high grade oil shale streaks common; trace gilsonite streaks; trace medium brown asphalt streaks; abundant kaolinite on fracture surfaces.
1252.1	1258.8	Oil Shale, light to medium olive brown, even with trace streaked bedding, good competence, medium to high grade; greenish gray pyrite streaks and lamina common; several buff marly streaks and lamina; trace medium brown asphaltic tuff streaks and bands; trace white kaolinite streaks; trace gilsonite streaks; trace greenish gray pyrite tuff streaks; 0.5 golden brown marlstone band at 1256.9 and 0.1 at 1251.0; trace asphaltic tuff nodules.
1258.8	1261.4	Oil Shale, medium olive brown to medium gray brown, even with trace streaked bedding, fair competence, medium grade; pyrite stringers and lamina common; numerous partings many with kaolinite; trace gilsonite streaks; trace buff marly streaks and stringers; trace blue gray anal-citized tuff streaks.
1261.4	1264.0	Oil Shale, light olive brown, even with trace irregular bedding, poor competence, very low to low grade; pyrite stringers and lamina common; trace gilsonite streaks; 0.2 medium brown asphaltic tuff band at 1261.4; 0.2 leached nahcolite vug at 1262.2; 0.2 band collapsed leached nahcolite at 1261.5 and 1263.0; several scattered solution fractures with evidence of collapsed leached nahcolite.

From	To	
1264.0	1266.4	Oil Shale, medium olive brown, streaked with trace irregular bedding, fair competence, medium grade; trace light tan fine grain tuff streaks; trace buff marly streaks and stringers; trace asphalt streaks; trace 0.05 collapsed leached nahcolite vugs; 0.3 zone solution fractures associated pyrite rims and evidence of collapsed leached nahcolite at 1264.2; 0.3 core loss from 1265.2-1265.5.
1266.4	1269.4	Oil Shale, medium to dark olive brown, streaked with trace looped bedding, poor to fair competence, low to medium grade; numerous solution fractures with evidence of collapsed leached nahcolite; trace gilsonite streaks; trace buff marly streaks and stringers; trace scattered 0.05 0.05 collapsed leached nahcolite vugs; trace asphaltic tuff blebs; trace kaolinite blebs; trace asphaltic tuff stringers, blebs, and nodules; 0.2 dark olive brown to black high grade oil shale band at 1268.2.
1269.4	1275.5	Oil Shale, light olive brown to light gray brown, streaked with even bedding, poor competence, very low to low grade; pyrite stringers and lamina common; several tan to white fine grain tuff stringers and streaks; several buff marly streaks and stringers; trace gilsonite streaks; abundant solution fractures with evidence collapsed leached nahcolite; 0.2 collapsed leached nahcolite band at 1272.9, 0.3 band at 1274.7.
1275.5	1277.6	Oil Shale, dark olive brown, streaked bedding, fair to good competence, high grade; trace buff marly streaks; trace gilsonite streaks; trace medium brown asphaltic tuff streaks; trace greenish gray pyrite streaks; gradational contact.
1277.6	1282.3	Oil Shale, light to medium olive brown, even, inclined at 50° and looped bedding, fair competence, low grade; abundant buff marly streaks and lamina; greenish gray pyrite streaks and lamina common; dark olive brown high grade oil shale streaks and lamina common; trace gilsonite streaks; trace medium brown asphaltic tuff streaks and stringers; trace light blue gray granular and analcitized tuff streaks; 0.2 dark olive brown high grade oil shale band at 1278.5.
1282.3	1288.7	Tuff, light blue gray, massive, calcareous, moderately hard and brittle, dark olive brown high grade oil shale streaks and stringers common; trace buff marly streaks; light brown granular analcitized tuff streaks; 0.1 band light olive brown low grade oil shale at 1288.0, 0.1 band medium olive brown medium grade oil shale at 1288.5, 0.2 band at 1288.8; trace gilsonite streaks.
1288.7	1290.7	Oil Shale, light olive brown, even bedding, fair competence, low to medium grade; trace greenish gray pyrite streaks and lamina; trace buff marly lamina; dark olive brown high grade oil shale lamina common.

From	To	
1290.7	1295.3	Marlstone, light gray brown to buff, even bedding, very poor to poor competence, trace kerogen; greenish gray pyrite streaks and lamina common, trace light olive brown low grade oil shale streaks and lamina; trace medium brown asphaltic tuff streaks; trace gilsonite streaks; abundant partings, core breaks easily by hand; gradational contact.
1295.3	1297.1	Oil Shale, light olive brown to light gray brown, even bedding, fair competence, very low grade; greenish gray pyrite streaks and stringers common, buff marly streaks and lamina common; trace gilsonite streaks.
1297.1	1300.8	Oil Shale, medium olive brown, streaked with even bedding, fair to good competence, medium to high grade; trace buff marly streaks; trace light brown granular tuff streaks and stringers; trace greenish gray irregular pyrite streaks; 0.1 band light gray brown marlstone at 1297.3; 0.1 leached nahcolite vug at 1297.8; 0.4 band light olive brown low grade oil shale at 1298.2; 0.2 light blue gray granular tuff at 1299.4; gradational contact.
1300.8	1304.3	Oil Shale, light olive brown, even with streaked bedding, good competence, low to medium grade; dark olive brown high grade oil shale streaks common; abundant light to tan marlstone stringers and lamina; light greenish gray irregular pyrite streaks and stringers common; trace gilsonite streaks; light blue gray granular analcitized tuff streaks and stringers common.
1304.3	1305.6	Tuff, light brownish gray, massive, good competence, calcareous, moderately hard, brittle, dark olive brown high grade oil shale streaks common, trace gilsonite streaks; trace asphalt streaks.
1305.6	1308.1	Oil Shale, light to medium olive brown, streaked bedding, poor to fair competence, low to medium grade; trace buff marly streaks; trace light greenish gray pyrite streaks; trace dark olive brown high grade oil shale streaks; 0.2 leached nahcolite vug with associated pyrite rims at 1306.7 and 0.1 at 1307.0.
1308.1	1310.0	Oil Shale, dark olive brown to black, evenly inclined at 50° with streaked and looped bedding, fair competence, high to very high grade; 0.2 dark brown asphaltic tuff band at 1309.4; trace gilsonite streaks; trace greenish gray pyrite streaks; 0.3 dark gray calcareous tuff at 1308.4; gradational contact.
1310.0	1313.3	Oil Shale, light to medium olive brown, even with trace contorted bedding, poor to fair competence, medium grade; buff marly streaks and stringers common; trace greenish gray pyrite streaks and lamina; dark olive brown high grade oil shale streaks and lamina common; trace medium brown asphaltic tuff stringers; abundant solution fractures from 1311.0-1313.3; trace gilsonite streaks.
1313.3	1314.3	1.0 core loss.
1314.3	1315.1	Oil Shale, light olive brown to light gray brown, irregular bedding, very poor to poor competence, low grade; abundant solution fracture with evidence of collapsed leached nahcolite and pyrite through out.

From	To	
1315.1	1322.9	Oil Shale, medium to dark olive brown, streaked bedding, fair to good competence, medium to high grade; trace tan marly streaks; trace greenish gray pyrite streaks; trace light blue gray granular analcitized tuff streaks; trace medium brown asphaltic tuff streaks and blebs; trace gilsonite streaks; a 0.1 leached nahcolite vug with associated pyrite rim at 1316.5 and a 0.05 at 1317.5 and a 0.2 at 1322.6.
1322.9	1326.7	Oil Shale, light to medium olive brown, even with trace looped bedding, fair competence, low grade; abundant buff marly stringers and lamina; trace dark olive brown high grade oil shale streaks and stringers; greenish gray pyrite streaks and lamina common; trace gilsonite streaks; trace light blue gray granular analcitized tuff streaks; 0.1 greenish brown marlstone band at 1326.5.
1326.7	1334.5	Oil Shale, light to medium olive brown to light gray brown, even with trace irregular bedding, very good competence, low to medium grade; numerous partings with kaolinite and pyrite; trace gilsonite streaks; trace dark brown asphaltic tuff streaks; pyrite stringers and lamina common; several buff marly streaks and stringers; trace white fine grain tuff stringers; abundant solution fractures with evidence collapsed leached nahcolite from 1330.7-1333.7; 0.8 core loss from 1333.7-1334.5.
1334.5	1337.3	Oil Shale, marly, light gray brown, even with trace offset bedding, poor competence, very low grade; numerous partings and solution fractures with evidence collapsed leached nahcolite; trace pyrite stringers and lamina; trace white fine grain tuff stringers.
1337.3	1339.4	Oil Shale, marly, light brownish gray, even and inclined bedding at 15°, very poor competence, very low grade; numerous partings and abundant solution fractures with evidence collapsed leached nahcolite and pyrite; .4 solution breccia zone with collapsed leached nahcolite from 1337.6-1338.0; trace white fine grain tuff stringers; trace pyrite stringers; trace gilsonite streaks.
1339.4	1342.8	Oil Shale, medium olive brown, even with trace looped bedding, poor to fair competence, medium grade; abundant solution fractures with evidence collapsed leached nahcolite from 1340.2-1341.4; several buff marly stringers; several pyrite streaks and stringers; trace asphalt streaks; trace gilsonite streaks.
1342.8	1347.1	Marlstone, medium brownish gray, even to massive bedding, brittle, poor to very poor competence; abundant solution fractures with abundant pyrite and evidence of collapsed leached nahcolite; pyrite streaks and lamina common; trace kerogen; 0.05 band irregular asphalt stringers at 1346.0.
1347.1	1349.0	Oil Shale, medium to dark olive brown, streaked with trace irregular bedding, fair competence, medium to high grade; bubbling core; several partings and solution fractures with asphalt; trace buff marly streaks and stringers; tan fine grain tuff streaks and blebs; trace asphalt streaks.

from	To	
1349.0	1349.9	Tuff, medium grayish brown, massive, brittle, fair competence, trace kerogen; several partings and solution fractures, 0.05 medium olive brown oil shale band at 1349.5; 0.1 grayish fine grain tuff band at 1349.8.
1349.9	1351.2	Oil Shale, medium gray brown, even bedding, fair to good competence, low grade, bedding inclined 5° from 1349.9-1350.1; few scattered asphaltic tuff stringers; trace light blue gray granular analcitized tuff streaks; trace pyrite streaks and stringers; numerous partings; 0.05 band of tan to white tuff at 1351.1; trace gilsonite streaks; gradational contact at 1351.2.
1351.2	1355.5	Oil Shale, light olive brown to light gray brown, even with trace offset and looped bedding, good competence, low grade; pyrite stringers and lamina common; several marly stringers; several white fine grain tuff stringers; trace medium olive brown oil shale stringers; trace gilsonite streaks; dark gray to black pyritic tuff stringers at 1351.6.
1355.5	1358.0	Tuff, medium gray, massive, fair competence, trace kerogen; fairly hard; moderately calcareous; trace scattered oil shale streaks; trace asphalt streaks; kaolinite common fractures; lower contacts irregular and possibly intertongued with lower oil shale.
1358.0	1362.1	Oil Shale, light olive brown, medium olive brown, and light gray banded, even with looped bedding, good competence, low grade; several scattered calcite streaks; several scattered pyrite streaks and blebs; from 1358.0-1358.6 several light blue gray, analcitized tuff bands and streaks; kaolinite common on partings and fractures.
1362.1	1370.5	Oil Shale, light gray brown with medium olive brown banding, even and looped bedding with trace streaked bedding, fair competence; low to medium grade; several scattered irregular calcite stringers from 1367.9-1370.0; 0.10 marly band at 1370.4; abundant kaolinite on fracture and parting surface; from 1368.0-1370.0 scattered pyrite streaks and stringers; trace evidence of collapsed leached nahcolite.
1370.5	1379.3	Oil Shale, medium to light olive brown, even with trace looped and irregular bedding, fair to good competence, very low to low grade; abundant pyrite and calcite streaks and stringers; solution breccia zone with collapsed leached nahcolite from 1375.0-1375.5; collapsed leached nahcolite associated with partings; abundant kaolinite associated with partings and fractures.
1379.3	1383.1	Oil Shale, light to medium olive brown, even, streaked, looped, and irregular bedding, intermixed, fair competence, low grade; several scattered thin bands and zones of leached disseminated nahcolite blebs with escaping gas (bubbling core); leached disseminated nahcolite zone from 1380.5-1381.7 (bubbling); several scattered .05-.10 dia. leached nahcolite vugs; abundant kaolinite on partings and fracture surfaces; few scattered calcite streaks and stringers; trace asphalt associated with leached disseminated nahcolite zones.

From	To	
1383.1	1391.6	Oil Shale, medium olive brown with dark olive brown bands; even with streaked and irregular bedding, fair competence, medium grade; scattered pyrite streaks; several scattered calcite streaks; collapsed leached nahcolite associated with few scattered thin solution fractures and solution breccia zones; trace asphalt and kaolinite associated with solution fractures and solution breccia zones and on few partings; 0.3 core loss from 1383.9-1384.2; 0.60 core loss from 1388.4-1389.0.
1391.6	1394.1	Oil Shale, medium to dark olive brown, even with trace looped and offset bedding, fair competence, medium to high grade; numerous partings, many with pyrite; trace buff marly streaks and stringers; trace pyrite stringers and lamina; trace asphaltic tuff streaks and stringers; 0.20 zone of inclined (15°) bedding at 1393.8; trace gilsonite streaks.
1394.1	1398.0	Core loss (3.9 ft).
1398.0	1401.0	Oil Shale, marly, light grayish brown, even bedding to nearly massive, poor competence, very low grade; abundant scattered pinpoint calcite; bubbling core; 0.20 grayish brown pyritic tuff band at 1398.6; 0.10 at 1399.2 and 0.10 at 1399.4; numerous partings and solution fractures with pyrite, calcite, and collapsed leached nahcolite; several scattered pyrite stringers; 0.40 zone of recemented solution breccia at 1400.1; few scattered zones of disseminated pinpoint pyrite; gradational contact.
1401.0	1404.7	Oil Shale, light olive brown to light gray brown, even bedding, fair competence, low to medium grade; numerous partings and fractures some with pyrite; pyrite streaks and stringers common; few scattered zones of pinpoint calcite; zones of pinpoint disseminated pyrite common; 0.05 light orange brown, slightly oxidized pyritic tuff band at 1403.4; trace gilsonite streaks; gradational contact.
1404.7	1406.1	Oil Shale, light olive brown, even bedding, fair competence, low grade; abundant kaolinite associated with partings and fractures; zone of pinpoint calcite from 1405.5-1405.8; abundant pyrite stringers; few scattered asphaltic tuff stringers.
1406.1	1412.5	Marlstone, light to medium gray, massive, brittle, poor to fair competence; abundant pinpoint calcite; abundant calcite streaks and stringers; several scattered zones of solution fractures and solution breccia with evidence of collapsed leached nahcolite and kaolinite; a 0.2 zone of recemented solution breccia at 1410.4 and a 0.3 zone at 1411.5 and a 0.3 zone at 1412.0; a 0.05 asphaltic tuff band at 1410.8; trace kerogen from 1406.1-1407.7; a 0.1 leached nahcolite vug at 1411.8.
1412.5	1417.3	Oil Shale, marly, light to medium olive brown, contorted and even with trace looped bedding, poor competence, very low grade; a zone of low grade oil shale stringers from 1450.1-1450.8; abundant solution fractures and solution breccia's with evidence of collapsed leached nahcolite; several scattered pyrite stringers; a 0.2 leached nahcolite vug at 1412.9; abundant kaolinite associated with partings and fractures; few scattered gilsonite streaks; zone of inclined bedding (30°) from 1450.0-1460.8; zone of partings and associated collapsed leached nahcolite from 1414.1-1414.5; a 0.2 band of recemented solution breccia

From	To	
		from 1414.5-1414.7.
1417.3	1422.1	Oil Shale, light olive brown, streaked with trace even and looped bedding, fair to good competence, medium grade; few scattered pyrite streaks and stringers; abundant pinpoint calcite; a 0.05 buff marly band at 1490.2; several scattered buff marly streaks and stringers; 0.1 blue gray analcitized tuff band at 1420.2; zone of abundant pyrite streaks and stringers from 1421.0-1421.6; several asphaltic tuff streaks; trace gilsonite streaks; trace asphalt streaks; 0.3 core loss from 1420.3-1420.6.
1422.1	1425.0	Oil Shale; light olive brown to light gray brown, even with streaked bedding, fair competence, low grade; abundant pyrite stringers and lamina; several partings and solution fractures with associated pyrite; several scattered asphalt streaks and blebs; few scattered asphaltic tuff streaks and stringers; trace gilsonite streaks; several scattered buff marly streaks and stringers.
1425.0	1426.5	Oil Shale, marly, light grayish brown, even to massive bedding, poor to fair competence, very low grade; numerous partings, solution fracture zones, solution breccia zones with associated pyrite and evidence of collapsed leached nahcolite; abundant disseminated pinpoint pyrite; abundant scattered pinpoint white altered nahcolite; several pyrite stringers and lamina; trace scattered leached nahcolite vug; trace pyritic tuff streaks.
1426.5	1429.5	Marlstone, light grayish brown to buff, massive with trace wavy bedding, trace kerogen, slightly brittle, poor competence; pinpoint disseminated pyrite abundant, pinpoint white altered nahcolite abundant; scattered blebs white altered nahcolite with associated asphalt, pyrite common; numerous partings, solution fracture zones and solution breccia zones with evidence collapsed leached nahcolite common; several scattered pyrite stringers and lamina; trace asphalt streaks; 0.1 leached nahcolite vug at 1427.3; several scattered 0.05 leached nahcolite vugs; tan claystone stringer with associated asphalt at 1429.3.
1429.5	1430.6	Oil Shale, marly, medium grayish brown, even bedding, poor competence, very low grade; numerous shaly partings; trace gilsonite streaks; asphaltic tuff stringer at 1430.1; trace scattered leached nahcolite vugs; gradational contact.
1430.6	1432.9	Oil Shale, light olive brown to light gray brown, even with streaked bedding, fair competence, low grade; bubbling core; numerous shaly partings; trace gilsonite streaks; 0.5 asphaltic tuff band at 1431.5 and at 1432.5; trace asphaltic tuff stringers; zone abundant pyrite stringers and lamina from 1432.0-1432.9; 0.1 asphaltic tuff band at 1431.2; several scattered zones pinpoint pyrite; soft orange brown powdery blebs, (Dawsonite ?) on some partings.

From	To	
1432.9	1436.6	Oil Shale, marly, even to massive with trace irregular bedding, poor competence, very low grade, numerous shaly partings; several solution fractures and solution breccia zones; abundant pinpoint white altered nahcolite; several scattered leached nahcolite vugs with associated pyrite; from 1433.0-1433.4, gray and brown banding; several pyrite stringers and lamina; 0.4 core loss from 1435.1-1435.5.
1436.6	1438.8	Marlstone, medium gray, massive with trace even bedding, brittle, very poor competence; abundant solution fractures and solution breccia's with evidence of collapsed leached nahcolite; several shaly partings; trace pinpoint disseminated pyrite.
1438.8	1442.4	Core loss 3.6.
1442.4	1443.6	Tuff; medium gray, massive, poor competence, calcareous, brittle, abundant leached blebs; bed contacts planar and well defined; asphalt and pyrite.
1443.6	1445.3	Oil Shale, argillaceous, dark gray brown, streaked with looped and even bedding, poor competence, very low grade; numerous pinpoint altered nahcolite streaks.
1445.3	1453.2	Shale, argillaceous and calcareous, dark brownish gray, even bedding, very poor competence, trace kerogen in few scattered zones; numerous planar shaly partings; several solution fractures and solution breccia zones; very argillaceous and fissile from 1448.1-1450.9; several scattered brownish black asphalt stringers; several scattered pyrite streaks; abundant pinpoint leached nahcolite streaks from 1449.4-1451.0; 0.05 light orange brown, slightly oxidized clay band at 1450.9; light gray and light brown marly banding common from 1444.5-1447.0; 1.2 core loss from 1452.0-1453.2.
1453.2	1454.1	Marlstone and interbedded shale, Marlstone; light brownish gray to buff, massive, hard, abundant disseminated white altered nahcolite, trace kerogen; Shale, dark greenish gray, massive, slightly calcareous, hard; overall: poor competence, several pyrite stringers; trace asphalt streaks; trace gilsonite streaks; evidence of collapsed leached nahcolite vugs.
1454.1	1456.1	Core loss 2.0
1456.1	1476.4	Shale, tuff, Marlstone interbedded, Shale; argillaceous, calcareous, dark brownish gray, even bedding, several planar shaly partings; slightly silty, dark brownish gray, even bedding, numerous planar shaly partings; Tuff; medium gray, massive, calcareous, brittle; Marlstone; light grayish brown, even with streaked bedding, trace kerogen; overall: poor competence; planar partings and solution fractures abundant; several scattered solution breccia zones; several scattered small (<.05 dia.) leached nahcolite vugs; several scattered zones of pinpoint leached vugs; several scattered zones of

From	To	
		pinpoint white altered nahcolite; trace asphalt streaks; several pyrite stringers; 0.3 leached nahcolite vugs at 1458.0; from 1460.5-1461.4 abundant pinpoint white altered nahcolite associated with light gray tuff; 2.3 core loss from 1469.4-1471.7, 0.05 light brown asphaltic clay band at 1476.2; 1.8 core loss from 1473.7-1475.5.
1476.4	1477.8	Tuff, dark gray, massive, poor competence, very asphaltic, possibly low grade; abundant solution fractures; fairly brittle; few scattered thin solution breccia zones; 0.05 light brown very low grade oil shale band at 1476.5 and stringer at 1476.8; upper and lower contacts are planar and well defined.
1477.8	1479.8	Oil Shale, argillaceous, dark gray brown to greenish black, even bedding, poor to fair competence, low grade; several planar shaly partings; asphalt and pyrite stringers common; several scattered medium brown oil shale stringers from 1477.8-1479.3; numerous medium brown oil shale bands and stringers from 1479.3-1479.8.
1479.8	1481.2	Marlstone with interbedded calcareous shale; Marlstone; light brown to buff, even bedding to nearly massive, trace kerogen; Shale; light to medium gray, even with trace irregular, very calcareous; poor to fair competence; overall: few scattered pyrite streaks and stringers; numerous white altered pinpoint nahcolite blebs from 1480.0-1480.4; 0.20 zone irregular altered pyrite stringers associated with collapsed leached nahcolite at 1480.8.
1481.2	1482.6	Shale, calcareous, medium to dark brownish gray, even bedding, poor to fair competence, trace kerogen; few scattered light brown oil shale stringers; several scattered shaly partings; trace solution fractures.
1482.6	1485.3	Oil Shale, marly, light gray brown, even with trace looped and irregular bedding, fair to poor competence, very low grade; numerous pyrite stringers; abundant white pinpoint altered nahcolite blebs; from 1482.8-1483.7; abundant planar shaly partings, abundant rubblized material; fairly crumbly with abundant solution fractures; 0.6 core loss from 1484.2-1484.8; zone of abundant very small leached disseminated nahcolite vugs from 1483.8-1485.2.
1485.3	1487.5	Marlstone; buff, even bedding, very poor competence, trace kerogen; abundant solution fracture and solution breccia; very crumbly; abundant rubblization with evidence of collapsed leached nahcolite; trace scattered pyrite streaks and stringers; abundant shaly partings; abundant leached very small nahcolite vugs.
1487.5	1491.5	4.0 core loss.
1491.5	1498.0	Oil Shale, light to medium brown, even bedding with trace irregular and offset bedding, very poor to poor competence, low to medium grade; abundant gray pyrite stringers; abundant solution fractures with abundant collapsed leached nahcolite and some asphalt - kaolinite; numerous planar shaly partings, some with evidence of collapsed leached nahcolite; several tectonic fractures from 1496.0-1498.0; asphaltic tuff

From	To	
		stringer at 1497.0.
1498.0	1502.3	Oil Shale, marly, light gray brown to buff, even to irregular bedding, poor competence, very low grade; very tuffaceous; abundant tectonic fractures; trace scattered pyrite stringers; trace pyrite on fracture surfaces; 3.2 core loss from 1499.1-1502.3.
1502.3	1504.7	1.7 core loss
1504.7	1504.8	Marlstone, buff, even bedding, very poor competence; abundant planar shaly partings, some with pyrite; abundant high angular tectonic fractures; very crumbly; trace disseminated pyrite; trace light brown oil shale stringers and lamina.
1504.8	1508.5	Oil Shale, medium brown, streaked to irregular bedding, poor to fair competence, medium grade; fairly tuff, solution fractures and solution breccia zones common with associated kaolinite; several scattered pyrite blebs; few scattered zones disseminated pyrite; several scattered pinpoint leached nahcolite vugs some with associated kaolinite; several scattered collapsed leached nahcolite; trace gilsonite streaks; several scattered pyrite streaks; planar shaly partings common from 1507.5-1508.5.
1508.5	1509.5	Oil Shale, marly, light olive brown to light gray brown, even bedding, poor competence, very low to low grade; pyrite streaks and stringers common; solution fracture zones with associated kaolinite common; planar shaly partings common; trace gilsonite stringers; trace asphalt streaks.
1509.5	1511.0	Oil Shale; light olive brown, even with trace looped bedding, poor competence, low grade; few scattered pyrite stringers; few scattered asphaltic tuff stringers; abundant solution fracture zones with associated kaolinite; numerous planar shaly partings; several scattered buff marly streaks; several scattered white to tan tuff stringers; trace gilsonite streaks; 0.3 core loss from 1510.5-1510.8.
1511.0	1512.0	Oil Shale; light brownish gray, even bedding, poor to fair competence, low grade; few solution fractures with associated pyrite; few scattered planar shaly partings with gilsonite fossils; pyrite streaks and stringers abundant; trace gilsonite streaks; few scattered asphaltic tuff stringers; few scattered buff marly stringers.
1512.0	1513.3	Oil Shale; light olive brown, even bedding, very poor to poor competence, low grade; abundant solution fractures with associated kaolinite; numerous pyrite stringers; several scattered blue gray granular analcitized tuff stringers; planar shaly partings common; trace asphaltic streaks.
1513.3	1514.5	1.2 core loss

From	To	
1514.5	1517.5	Oil Shale, light olive brown to medium olive brown, even with trace streaked and looped bedding, poor to fair competence, low to medium grade; abundant pyrite streaks and stringers; few scattered pyritic tuff streaks; few scattered buff marly streaks and stringers; abundant kaolinite associated with fractures and partings.
1517.5	1519.0	Oil Shale, light olive brown, even with trace contorted bedding, poor to fair competence, low grade; abundant pyrite streaks and stringers; few scattered buff marly streaks and stringers; abundant kaolinite associated with fractures and partings.
1519.0	1519.9	Marlstone, light gray, massive with trace even bedding, poor competence, brittle, trace kerogen; highly brecciated with associated kaolinite and evidence of collapsed leached nahcolite.
1519.9	1523.0	Oil Shale, marly, light olive brown, even bedding, poor competence, very low to low grade; few scattered pyrite streaks and stringers; kaolinite associated with partings and fractures; trace gilsonite streaks; a 0.9 core loss from 1520.5-1521.4; abundant planar shaly partings; trace scattered 0.05 leached nahcolite vug; trace blue gray granular analcitized tuff stringers; trace asphaltic tuff stringers.
1523.0	1524.7	Oil Shale, light olive brown to light gray brown, even with streaked bedding, poor competence, low grade; numerous planar shaly partings; numerous solution fracture zones; disseminated pinpoint pyrite abundant; tan to white tuff stringers and blebs common; abundant kaolinite associated with solution fracture and fractures; few scattered pyritic tuff streaks; few scattered asphaltic tuff streaks; trace solution breccia zones with evidence of collapsed leached nahcolite; few scattered buff marly stringers; a 0.5 leached nahcolite vug from 1524.4-1524.9.
1524.7	1532.2	Oil Shale, light olive brown to light gray brown, even and streaked bedding, fair competence, low grade; numerous planar partings some with kaolinite; several solution fracture zones with abundant kaolinite; streaked bedding from 1526.8 to 1529.0; 0.2 leached nahcolite vug with evidence of collapsed leached nahcolite at 1527.0; several scattered pyrite stringers; several scattered asphaltic tuff stringers; trace gilsonite streaks.
1532.2	1534.5	Oil Shale, marly, light olive brown, even bedding, poor competence, very low to low grade; abundant solution fractures and solution breccia's and recemented solution breccia's with evidence of collapsed leached nahcolite from 1532.5-1534.2; trace pyrite stringers and streaks; trace asphaltic tuff streaks.
1534.5	1535.6	Oil Shale, medium olive brown, streaked bedding, fair competence, medium grade; trace buff marly streaks and stringers; trace gilsonite streaks; several scattered asphaltic tuff blebs; trace pyritic tuff blebs; several scattered white to tan tuff stringers; trace dark olive brown oil shale streaks; trace asphalt streaks; several scattered pyrite stringers.

From	To	
1535.6	1537.4	Oil Shale, dark olive brown, even with trace streaked and offset bedding, good competence, medium grade; few scattered solution fracture zones; fractures with abundant kaolinite; trace buff marly streaks and stringers; trace gilsonite streaks; trace white tuff blebs; trace pyritic tuff blebs; 0.1 asphaltic tuff band at 1536.5; 0.2 zone of asphalt stringers and blebs at 1536.4; a gilsonite stringer at 1537.0.
1537.4	1538.3	Oil Shale, light olive brown to light gray brown, even with trace wavy and offset bedding; fair competence, low grade; several planar shaly partings; several solution fracture zones, one with bleeding asphalt at 1537.5; several scattered pyritic tuff stringers; several scattered buff marly stringers; 0.1 asphaltic tuff band at 1537.8; several scattered dark olive brown oil shale stringers; trace gilsonite streaks.
1538.3	1542.9	Marlstone, light to medium brown gray, even to massive bedding, brittle, poor competence, trace kerogen; abundant planar shaly partings and solution fractures and solution breccia's with evidence of collapsed leached nahcolite; several scattered asphaltic tuff stringer; several scattered pyrite stringers; competence becomes very poor from 1541.9 to 1542.9; 0.05 tan irregular marly lens at 1541.6; 0.3 core loss from 1542.6-1542.9.
1542.9	1547.8	Marlstone, light brownish gray to buff, irregular with trace streaked and offset bedding, brittle, trace kerogen, fair competence; numerous planar partings with associated pyrite; few scattered solution fracture zones; trace scattered recemented solution breccia zones; numerous scattered zones of pinpoint white altered nahcolite; numerous pyrite streaks and stringers; light to medium gray from 1546.3-1547.8 due to increased pyrite; 1.0 core loss from 1543.2-1544.2.
1547.8	1550.4	Oil Shale, marly, light olive brown to light gray brown, even with irregular and trace offset bedding, fair competence, very low grade; pyrite streaks and stringers common; several scattered asphaltic tuff stringers; 0.20 leached nahcolite vug with bladed and radiated structure at 1548.4; 0.10 buff marlstone band at 1548.7 and 0.2 at 1549.4; trace gilsonite streaks; several scattered zones of pinpoint white altered nahcolite; several scattered small leached nahcolite vug with bladed and radiated structure; pyritic tuff stringer at 1548.2; 0.1 asphaltic tuff band at 1549.7 and .05 band at 1550.3.
1550.4	1551.4	Oil Shale, medium olive brown, streaked bedding, good competence, medium grade; several scattered asphaltic tuff streaks; trace buff marly blebs; few scattered leached nahcolite vug; several scattered pyritic tuff streaks; 2 pyritic tuff nodules at 1551.1; 0.5 band of irregular asphaltic tuff stringers at 1551.3; gradational contact.

From	To	
1551.4	1554.1	Oil Shale, dark olive brown, streaked with even bedding from 1553.5-1554.1, good competence, high to very high grade; trace gilsonite streaks; few scattered buff marly blebs; few scattered pyritic tuff blebs and streaks.
1554.1	1555.9	Oil Shale, marly, light green gray to light brown gray, even bedding, poor competence, very low grade; several scattered pyrite stringers and streaks; trace pyritic tuff streaks; solution fracture and solution breccia zones common from 1554.8-1555.9; few scattered buff marly stringers; trace asphalt streaks; .1 leached nahcolite vug with associated pyrite and bladed and radiated structure at 1555.5.
1555.9	1565.5	Marlstone, light gray brown to buff, massive with even bedding, poor to fair competence; trace kerogen; abundant planar partings associated pyrite; numerous solution fracture and solution breccia zones with pyrite and associated leached nahcolite vug; few scattered light olive brown to medium olive brown oil shale stringers; trace gilsonite streaks; several light tan clay stringers at 1558.2, 1559.0; several scattered pyrite stringers; zones of pinpoint white altered nahcolite common; zone of pinpoint leached nahcolite vug from 1560.0-1560.5; few scattered asphaltic tuff stringers.
1565.5	1568.6	Oil Shale, marly, light gray brown, even, irregular, massive and streaked bedding, fair competence, very low grade; solution fractures with associated leached nahcolite vug and pyrite common; several scattered white-tuff streaks; .2 tan to buff mudstone band with pinpoint white altered nahcolite and pyrite at 1567.0; few scattered small leached nahcolite vugs with associated pyrite; several scattered asphaltic tuff stringers; several scattered pyrite stringers; .05 band of white to tan irregular clay streaks at 1568.1.
1568.6	1570.6	Oil Shale, dark olive brown, streaked bedding, excellent competence, very high grade, very low density; several scattered asphaltic tuff stringers and blebs; several scattered small leached nahcolite vugs; several scattered buff marly blebs and streaks; trace buff clay blebs; .1 leached nahcolite vug at 1569.1.
1570.6	1571.8	Oil Shale, dark olive brown to black, streaked bedding, excellent competence, very high grade; very low density; few scattered light olive brown bands from 1571.5-1571.8; trace buff marly stringers; trace gilsonite streaks.
1571.8	1573.0	Oil Shale, medium olive brown, even with trace wavy bedding, good to excellent competence, medium grade; pyrite streaks and stringers common; few scattered asphaltic tuff streaks and stringers; few scattered white tuff blebs.
1573.0	1575.5	Oil Shale, light olive brown to buff, even bedding, poor to fair competence, very low to low grade; slightly marly; numerous partings many with pyrite; several scattered zones of disseminated nahcolite with some altered nahcolite and partially leached vugs; several pyritic tuff stringers; few scattered white altered nahcolite stringers; 0.2 at 1575.3-1575.5.

From	To	
1575.5	1578.7	Oil Shale, dark olive brown, streaked with trace wavy bedding, good competence, high grade; several planar partings with associated pyrite; several scattered white tuff blebs; trace asphalt streaks; several scattered pyritic tuff blebs; several scattered asphaltic tuff blebs; .05 leached nahcolite vug, trace associated pyrite at 1576.0 and .1 at 1576.0; .2 dark brown medium crystalline nahcolite pod with bladed and radiating structure, pyrite rims and associated white altered nahcolite at 1576.5 and 1577.5 and .1 patch at 1576.7.
1578.7	1580.7	Oil Shale, dark olive brown to black, even bedding, excellent competence, very high grade; very low density; zone of white pinpoint tuff from 1579.0-1579.5; trace asphalt stringers; trace gilsonite streaks; trace pyrite blebs.
1580.7	1582.1	Oil Shale, medium to dark olive brown, streaked bedding, excellent competence, medium to high grade; several scattered asphaltic tuff blebs and streaks; trace gilsonite streaks; trace pyritic tuff blebs.
1582.1	1587.5	Oil Shale, light olive brown to light gray brown, even bedding, fair competence, low grade; several scattered buff marly bands; numerous pyrite stringers; numerous partings; .2 band of leached nahcolite vug at 1584.5; .2 leached nahcolite vug with white altered nahcolite and pyrite rims at 1584.8 and a .05 at 1586.5; .1 band of collapsed leached nahcolite at 1587.3.
1587.5	1590.6	Oil Shale, medium olive brown, even with trace looped bedding; fair competence, medium grade; trace gilsonite streaks; several scattered pyritic tuff streaks and blebs; numerous partings; several scattered streaks of pinpoint white altered nahcolite; zone of .05 analcitized leached nahcolite vug with some white altered nahcolite from 1588.2-1589.4; a pyrite nodule at 1589.1; .6 core loss from 1589.9-1590.5.
1590.6	1592.6	Oil Shale, medium olive brown, even with trace wavy bedding, good competence, medium grade; numerous pyrite streaks and stringers; several scattered asphaltic tuff streaks and stringers; .05 asphaltic tuff band at 1592.1; a .05 leached nahcolite vug at 1591.7.
1592.6	1597.0	Oil Shale, marly, light brown to buff, even with trace irregular bedding, poor competence, very low grade; numerous zones of recemented breccia; several solution fracture zones with associated small leached nahcolite vugs; a pyritic tuff stringer at 1594.9.
1597.0	1610.6	Oil Shale, medium olive brown, streaked and even bedding, good to excellent competence, medium grade; trace asphaltic tuff blebs and streaks; trace gilsonite streaks; several scattered buff marly blebs and streaks; several scattered zones of collapsed leached nahcolite with associated white pinpoint altered nahcolite; several scattered leached nahcolite vugs; several scattered pyrite streaks and stringers; several scattered white tuff blebs; a .2 leached nahcolite vug with pyrite rims at 1598.3 and 1606.3; a .1 light brown to buff fine crystalline nahcolite pod with associated white altered nahcolite at 1598.9; a .1 light medium brown nahcolite pod with bladed and radiated structure, white altered nahcolite and pyrite rims at 1599.6; .2 medium to dark brown, medium

From	To	
		to coarse crystalline nahcolite pod with bladed and radiated structure, associated white altered nahcolite and pyrite rims at 1600.7; a zone of pinpoint disseminated pyrite from 1600.0-1600.5 and 1603.1-1603.5; .05 buff marlstone band at 1602.7; zone of buff marlstone nodule at 1604.0.
1610.6	1618.2	Oil Shale, light to medium olive brown, streaked with trace wavy bedding, good competence, low to medium grade; several scattered pyrite streaks and stringers; trace gilsonite streaks; several buff marly streaks and stringers; zone of .05 and .1 leached nahcolite vug with pyrite rims from 1611.0-1614.0; .2 buff mudstone band with associated pinpoint white altered nahcolite at 1611.8; .1 light brown fine grained nahcolite pod with associated white altered nahcolite and pyrite rims at 1616.2.
1618.2	1620.8	Oil Shale, marly, light brown to light olive brown, even bedding, fair competence, very low to low grade; white to tan clay stringer at 1619.4 and 1620.2; white rounded dawsonite (?) blebs in association with dark brown asphaltic tuff at 1620.5; several scattered zones of pinpoint white altered nahcolite stringers; several scattered pyritic tuff stringers; trace gilsonite streaks; several scattered .05 and .1 leached nahcolite vugs; several scattered zones of pinpoint disseminated pyrite.
1620.8	1622.7	Oil Shale, light brown to light olive brown, streaked bedding, excellent competence, low grade; several zones of pinpoint - .05 nahcolite blebs; few scattered .05 leached nahcolite vugs; several scattered tan marly streaks, blebs, and nodules; trace pyritic tuff blebs; 0.05 tan microcrystalline nahcolite band at 1622.5 and 1622.7; .1 light to medium brown medium crystalline nahcolite pod with bladed and radiated structure and associated white altered nahcolite at 1622.0; few scattered microcrystalline nahcolite stringers and blebs with associated white altered nahcolite.
1622.7	1627.5	Nahcolite with Oil Shale interbedded, light brown, microcrystalline with associated white altered nahcolite from 1622.9-1624.3 and light brown medium to coarse crystalline nahcolite with bladed and radiated structure and associated white altered nahcolite from 1625.9-1627.4 and pyrite rims; Oil Shale, light brown to light olive brown, streaked bedding, low grade; overall, good competence; trace scattered pyrite blebs.
1627.5	1631.3	Oil Shale, light olive brown, streaked and even bedding (streaked from 1627.5-1629.1) (evenly inclined at 30° from 1629.1-1631.3) excellent competence, low grade; several pinpoint - .05 nahcolite blebs from 1627.5-1628.9; trace scattered asphaltic tuff stringers; trace buff marly streaks and blebs; trace medium olive brown oil shale stringers; trace white tuff streaks; .2 medium brown fine to medium crystalline nahcolite pod with bladed and radiated structure and associated white altered nahcolite at 1629.9-1630.1; .3 pod at 1629.5; .1 medium brown fine crystalline band at 1631.1.

From	To	
1631.3	1639.9	Oil Shale, medium to dark olive brown, streaked bedding, excellent competence, medium to high grade; trace gilsonite streaks; few scattered pyrite blebs and streaks; several scattered buff marly streaks and blebs; few scattered asphaltic tuff streaks; .3 medium brown microcrystalline nahcolite pod at 1632.1; .1 fine grained nahcolite pod at 1633.4; .2 medium crystalline brown nahcolite pod with bladed and radiated structure at 1634.4; .1 patch at 1634.7; .4 band at 1635.0; medium brown, medium crystalline nahcolite pods with associated asphaltic pyrite rims; .20 at 1635.3, .30 at 1637.5 .10 at 1637.6, .5 at 1639.3; few scattered asphalt streaks; a few scattered 0.05 dia. nahcolite blebs; an irregular fine to medium crystalline patch at 1639.2.
1639.9	1644.9	Oil Shale, medium to dark olive brown with few zones of dark gray to brown, streaked bedding with zones of even bedding from 1639.9-1640.1, from 1641.3-1641.9, and 1642.1-1642.3, excellent competence, high grade; several scattered asphalt streaks; a few pyrite lamina associated with zones of even bedding; several scattered marly streaks.
1644.9	1646.8	Oil Shale, medium olive brown to medium mahogany brown, even with trace looped and streaked bedding, excellent competence, medium to high grade; several scattered dark greenish black altered pyrite with associated asphalt stringers; a 0.20 coarse crystalline nahcolite pod with associated 45° inclined bedding at 1645.3; a 0.25 zone of medium crystalline nahcolite streaks at 1646.5.
1646.8	1648.6	Oil Shale, light olive brown to tan, looped with even and irregular bedding, good to excellent competence, very low to low grade; medium to coarse crystalline root beer brown nahcolite beds from 1646.8-1647.3; a 0.30 coarse crystalline nahcolite pod at 1647.5; a 0.10 zone of light brown asphalt streaks at 1647.7.
1648.6	1650.2	Oil Shale, light olive brown, irregular with trace streaked bedding, excellent competence, low to medium grade; a coarse crystalline light brown translucent nahcolite bed with associated altered pyrite and asphalt from 1648.9-1649.5; several scattered small nahcolite pods and blebs from 1649.5-1649.9; gradational contact.
1650.2	1654.2	Oil Shale, medium olive brown, streaked bedding, excellent competence, high grade, fairly low density; fairly elastic; fairly tough; several scattered gilsonite streaks and blebs; 0.10 zones of dark greenish black associated altered pyrite and asphalt blebs and stringers at 1651.0 and 1651.8; several scattered pinpoint altered pyrite blebs.
1654.2	1655.4	Nahcolite, medium to coarse crystalline, root beer brown with trace white translucent, with associated pyrite and asphalt on upper and lower contacts, bladed and radiated structure, excellent competence.
1655.4	1659.6	Oil Shale, medium olive brown to medium brown, streaked bedding, excellent competence, medium to high grade; several scattered gilsonite streaks and blebs; numerous scattered marly streaks; a 0.30 diameter fine to medium crystalline nahcolite pod at 1656.9.

From	To	
1659.6	1660.7	Nahcolite, coarse crystalline, light brown to clay white, bladed and radiated structure, excellent competence, translucent, with altered pyrite and asphalt on upper and lower contacts.
1660.7	1662.4	Oil Shale, dark olive brown, even with trace looped bedding, excellent competence, high grade; bedding inclined 30° from 1660.7-1661.2; numerous dark grayish black pyrite streaks and lamina; a 0.2 zone of irregular asphalt patch at 1661.2.
1662.4	1663.9	Oil Shale with interbedded Nahcolite; Oil Shale, light olive brown to tan, even with trace looped and irregular bedding, excellent competence, low grade; Nahcolite, medium crystalline, root beer brown, translucent; a 0.30 at 1662.7 and a 0.20 at 1663.6; greenish black altered pyrite and associated asphalt stringer at 1662.7 and a 0.05 pod at 1663.1.
1663.9	1665.2	Nahcolite, fine to medium crystalline, light brown, zones of thin oil shale septa a 0.10 at 1663.1, a 0.05 at 1664.6 and a 0.2 at 1664.8; altered pyrite and asphalt associated with contact.
1665.2	1669.8	Oil Shale, light brown to tan, even with trace irregular and wavy bedding, fair competence, very low to low grade; from 1665.2-1666.2 several scattered 0.05-0.10 fine crystalline nahcolite pods; a 0.20 tan microcrystalline nahcolite band at 1665.7; a tan fine crystalline nahcolite stringer at 1666.3; a 1.9' irregular vertical fracture cemented with nahcolite (possibly injected along fracture under pressure); numerous buff to tan microcrystalline to fine microcrystalline nahcolite stringers from 1667.2-1667.9 and from 1668.4-1669.4; a 0.20 tan microcrystalline nahcolite band at 1667.9 and a 0.30 at 1669.5; a 0.20 zone of numerous irregular tan microcrystalline nahcolite pods and streaks at 1669.0.
1669.8	1672.5	Oil Shale, tan and light to medium olive brown, even with irregular bedding, good competence, low to medium grade from 1669.8-1671.8, very low from 1669.8-1672.5; from 1669.8-1671.3 numerous 0.05-0.20 fine to medium crystalline nahcolite pods; a 0.2 band of fine to medium nahcolite at 1671.6; numerous fine crystalline nahcolite stringers from 1671.8-1672.5; a 0.15 band of tan microcrystalline nahcolite at 1672.0.
1672.5	1675.5	Oil Shale, medium olive brown, streaked bedding, excellent competence, medium to high grade; numerous scattered altered pyrite and associated asphalt streaks, stringers, and blebs; few scattered tan marly blebs and streaks; a 0.20 medium crystalline nahcolite band at 1672.7; a 0.10 root beer brown microcrystalline nahcolite pod at 1673.3; a 0.30 zone of fine crystalline nahcolite at 1673.9; gradational contact.
1675.5	1680.3	Oil Shale, medium brown, streaked and irregular bedding, excellent competence, medium to high grade; several scattered 0.05-0.10 medium crystalline nahcolite pods; several scattered nahcolite stringers with associated pyrite and asphalt; several scattered altered pyrite blebs; a 0.30 zone of disseminated nahcolite at 1677.5; few scattered pyrite tuff streaks; .2 medium brown microcrystalline nahcolite pod with white

From	To	
		altered nahcolite and pyrite rims at 1678.3; .2 band of irregular nahcolite streaks and stringers with associated pyrite at 1679.9.
1680.3	1681.8	Oil Shale, light to medium olive brown, even bedding, excellent competence, low to medium grade; zone of pyrite blebs at 1679.8; several scattered marly streaks and stringers; several scattered pyrite streaks and stringers; trace gilsonite streaks.
1681.8	1688.2	Oil Shale with nahcolite interbedded; Oil Shale: light olive brown, even with trace irregular bedding, low grade; Nahcolite: medium to dark brown, fine to medium crystalline pods and bands with associated white altered nahcolite and medium brown translucent micro-crystalline bands with associated white altered nahcolite; few scattered medium olive brown oil shale stringers; few pyritic tuff streaks and blebs; overall: fair competence; trace gilsonite streaks; few planar partings.
1688.2	1691.5	Oil Shale, dark olive brown, streaked bedding, good competence, high grade; trace gilsonite streaks; several buff marly streaks and blebs; 0.1 dark brown, fine to medium crystalline nahcolite pod with pyrite rims and bladed and radiated structure at 1684.2 and 1684.8; 0.2 medium brown medium crystalline nahcolite band with bladed and radiated structure and white altered nahcolite at 1684.4; several 0.1 dark brown coarse crystalline nahcolite pods with white altered nahcolite and bladed and radiated structure at 1685.9, and a 0.6 band at 1687.7 and 1689.8; a 0.3 band of light to medium brown fine crystalline nahcolite with bladed and radiated structure at 1686.6.
1691.5	1693.0	Oil Shale, light olive brown, even with trace looped and irregular bedding, excellent competence, low grade; several scattered buff marly streaks and stringers; trace white tuff streaks and stringers; trace gilsonite streaks; trace pyrite streaks; bedding becomes inclined at 15° from 1692.5-1693.0.
1693.0	1698.0	Oil Shale, marly, light olive brown to light gray brown, even with trace wavy and irregular bedding, poor competence, very low grade; numerous solution fracture zones with evidence of collapsed leached nahcolite; 0.3 medium brown, fine to medium crystalline nahcolite pod with bladed and radiated structure at 1694.6; trace asphalt and pyrite streaks; 0.4 core loss from 1695.1-1695.5; 0.1 zone of medium olive brown oil shale stringers at 1697.2.
1698.3	1699.4	1.1 core loss.
1699.4	1700.6	Oil Shale and Nahcolite; Oil Shale, light to medium olive brown, contorted bedding, low grade; Nahcolite, tan to light brown micro-crystalline with associated white altered nahcolite, translucent, overall: good competence; trace gilsonite streaks; trace zones of pinpoint disseminated pyrite; trace blue gray analcitized tuff blebs.

From	To	
1700.6	1711.1	Oil Shale, medium to dark olive brown, streaked with trace even and irregular bedding, excellent competence, medium to high grade; several scattered pyrite blebs; trace buff marly streaks and blebs; several scattered pinpoint - 0.1 nahcolite pods; trace pyritic tuff streaks; few scattered zones of pinpoint disseminated pyrite; 0.4 dark brown coarse crystalline nahcolite band with white altered nahcolite and abundant septa at 1700.6; 0.2 medium brown, fine to medium crystalline nahcolite band with associated white altered nahcolite and bladed and radiated structure at 1702.8 and 1704.4, a 0.1 patch at 1702.5, a 0.2 pod at 1703.4, 1709.5, and 1709.8 a 0.3 pod at 1705.3; a 0.1 medium brown medium crystalline nahcolite band with bladed and radiated structure at 1708.3 and 1708.6; a 0.1 light brown fine grain nahcolite band at 1707.4 and at 1710.5; bedding becomes even from 1708.5-1709.5.
1711.1	1713.7	Oil Shale, medium olive brown to medium gray brown, irregular bedding, good to excellent competence, medium grade; few scattered brown asphaltic tuff stringers; few scattered pyrite stringers; a 0.2 medium brown fine to medium grain nahcolite pods with bladed and radiated structure at 1712.0 and at 1713.0, and a 0.3 pod at 1711.6; trace light brown marly stringers; trace asphalt stringers and blebs.
1713.7	1715.8	Nahcolite with oil shale interbedded; Nahcolite, tan translucent microcrystalline with buff fine grain bands and stringers; oil shale, light olive brown, even with trace irregular bedding, low grade; overall; good to excellent competence; trace asphalt streaks.
1715.8	1719.2	Oil Shale with nahcolite interbedded, light to medium olive brown, even with trace wavy bedding, good competence, low to medium grade; Nahcolite; buff, fine grained nahcolite bands with associated white altered nahcolite and medium brown translucent microcrystalline nahcolite bands with associated white altered nahcolite and pyrite rims; trace scattered pyritic tuff blebs; trace scattered buff marly streaks and stringers; several scattered pyrite stringers; trace scattered dark olive brown oil shale stringers; few scattered zones of pinpoint disseminated pyrite; trace scattered 0.05 dark brown, medium crystalline nahcolite pods.
1719.2	1725.5	Oil Shale, medium olive brown, streaked bedding, excellent competence, medium to high grade; several scattered zones of pyrite blebs; several scattered zones of pinpoint disseminated pyrite; several scattered pyritic tuff blebs and streaks; few scattered tan fine crystalline nahcolite blebs - 0.05 pods, 0.1 pod at 1722.1; 0.1 medium brown fine crystalline nahcolite band at 1720.1 and a 1725.4.
1725.5	1727.3	Oil Shale with nahcolite interbedded; Oil Shale, light olive brown, even with irregular bedding, excellent competence, low grade; Nahcolite; light to medium brown, microcrystalline to fine crystalline nahcolite bands and pods with white altered nahcolite; few scattered zones of pinpoint disseminated pyrite; several scattered buff marly streaks and stringers.

From	To	
1727.3	1728.8	Nahcolite; finely disseminated nahcolite with oil shale matrix, light green to brown, excellent competence; few scattered light tan to buff microcrystalline translucent nahcolite stringers and bands; pinpoint disseminated pyrite abundant.
1728.8	1732.9	Oil Shale and Nahcolite interbedded, Oil Shale: medium olive brown, even with streaked bedding, medium grade; Nahcolite: medium to dark brown, medium to coarse crystalline nahcolite bands and pods with bladed and radiated structure and numerous septa; overall: excellent competence, several scattered buff marly blebs and streaks; few scattered pinpoint nahcolite blebs; 0.2 light to medium brown, fine to medium crystalline nahcolite pod with bladed and radiated structure at 1730.1 and a 0.1 light to medium brown fine grain pod with bladed and radiated structure and associated white altered nahcolite and pyrite rims at 1729.5; few scattered pyrite blebs.
1732.9	1737.6	Oil Shale, light olive brown to buff, even with trace wavy bedding (associated with nahcolite pods) excellent competence, very low to low grade (slightly marly); several scattered pyrite blebs; few scattered zones of pinpoint disseminated pyrite; several scattered marly streaks and stringers; 0.2 dark brown coarse crystalline nahcolite pod with bladed and radiated structure and associated white altered nahcolite and pyrite rim at 1733.2, a 0.4 band at 1733.8, a 0.1 band at 1735.4, a 0.1 medium brown, fine crystalline pod with bladed and radiated structure, white altered nahcolite, pyrite rims at 1735.1 and 1736.2 and 0.2 band at 1736.6; 0.4 light brown to tan, medium crystalline nahcolite band with bladed and radiated structure and associated altered white nahcolite and pyrite rims from 1735.6; 0.2 root beer brown translucent microcrystalline nahcolite band with white altered nahcolite and pyrite rim at 1736.7 and 0.05 at 1736.2.
1737.6	1739.4	Oil Shale and Nahcolite interbedded; Oil Shale: light olive brown, even bedding, low grade, Nahcolite: light green brown, fine crystalline bands with bladed and radiated structure and associated white altered nahcolite, a 0.7 bed from 1738.7-1738.9; overall: excellent competence; trace gilsonite streaks; few scattered zones of pinpoint nahcolite blebs; 0.2 medium brown, medium coarse crystalline nahcolite pod with bladed and radiated structure and pyrite rims at 1739.1.
1739.4	1741.3	Oil Shale and Nahcolite interbedded; Oil Shale, light to medium olive brown, streaked with even bedding, low to medium grade; Nahcolite: medium brown, medium to coarse crystalline, nahcolite pods with bladed and radiated structure and white altered nahcolite, and medium brown fine crystalline nahcolite band with bladed and radiated structure and associated white altered nahcolite and pyrite rims; overall: excellent competence, trace gilsonite streaks; several scattered buff marly streaks and blebs; few scattered pyrite stringers; 0.05 pyritic tuff band at 1741.0.

From	To	
1741.3	1743.3	Oil Shale, marly, light olive brown to light gray brown, even bedding, excellent competence, very low grade; 0.1 medium brown, medium crystalline nahcolite pod and associated white altered nahcolite at 1741.5 and at 1742.2; 0.1 dark brown coarse crystalline nahcolite pod with white altered nahcolite at 1742.4; pyrite stringers common; few scattered zones of pinpoint disseminated pyrite; trace scattered white tuff stringers; trace scattered medium olive brown oil shale stringers.
1743.3	1745.5	Oil Shale, medium olive brown, streaked bedding, excellent competence, medium to high grade; trace gilsonite streaks and trace asphalt streaks; 0.1 dark brown coarse crystalline nahcolite patch at 1744.7; few scattered buff marly blebs; trace scattered pyritic tuff blebs; gradational contact.
1745.5	1750.5	Oil Shale, medium olive brown to medium gray brown, streaked with trace even bedding, excellent competence, medium grade; trace gilsonite streaks; several scattered pyrite streaks and stringers; few scattered zones of disseminated pinpoint pyrite; several buff marly streaks and blebs; several scattered pyrite blebs; few scattered asphaltic tuff blebs; 0.1 dark brown, coarse crystalline, nahcolite pod with bladed and radiated structure at 1749.6.
1750.5	1753.3	Oil Shale and Nahcolite interbedded, Oil Shale: light olive brown to light gray brown, even with trace streaked and wavy bedding, low grade; Nahcolite: medium to dark brown, medium to coarse crystalline nahcolite pods and bands with bladed and radiated structure and associated white altered nahcolite and pyrite rims; overall: excellent competence; pyrite stringers common; several scattered zones of disseminated pinpoint pyrite; trace dark olive brown oil shale stringers.
1753.3	1757.3	Oil Shale, medium to dark olive brown, streaked bedding, excellent competence, high grade; low density; few scattered buff marly streaks and blebs; trace gilsonite streaks; few scattered pyrite blebs.
1757.3	1758.1	Oil Shale, light olive brown to light gray brown, streaked and even bedding, excellent competence, low grade; several scattered gilsonite streaks; buff marly streaks, stringers, and blebs common; pyrite stringers common from 1757.8-1758.1; trace white tuff streaks and blebs.
1758.1	1759.2	Nahcolite, dark brown, medium crystalline with bladed and radiated structure and associated white altered nahcolite, excellent competence.
1759.2	1761.2	Oil Shale, medium to dark olive brown, even bedding, excellent competence, high grade; low density, trace pyritic tuff streaks; trace pyrite stringers; trace marly streaks.
1761.2	1763.1	Oil Shale, light olive brown to buff and medium olive brown band, even with trace wavy bedding, excellent competence, low grade; several scattered buff marly streaks and blebs; trace scattered pyrite blebs; trace asphaltic tuff blebs; several scattered white tuff blebs; pyrite stringers common from 1762.5-1763.1.

From	To	
1763.1	1766.2	Oil Shale, medium to dark olive brown, streaked bedding, excellent competence, high grade; white tuff blebs common; several scattered pyritic tuff blebs; a zone of light to medium olive brown, medium grade oil shale from 1764.0-1764.5; several scattered asphalt streaks; few scattered pyrite blebs; gradational contact.
1766.2	1776.1	Oil Shale, dark olive brown to dark gray brown, even with trace looped and irregular bedding, excellent competence, high grade; pyrite streaks and stringers abundant; asphalt streaks common; asphaltic tuff streaks, stringers, and blebs common; trace gilsonite streaks.
1776.1	1778.7	Oil Shale, medium olive brown to medium gray brown, even with trace irregular bedding, excellent competence, medium grade; pyrite streaks, stringers, and blebs common; trace light brown slightly asphaltic tuff stringers; from 1778.3-1778.7 dark olive brown oil shale stringers common.
1778.7	1779.9	Nahcolite with oil shale interbedded; Nahcolite, dark brown, medium to coarse crystalline with bladed and radiated structure and white altered nahcolite; Oil Shale, medium to dark olive brown, streaked bedding, excellent competence, medium to high grade.
1779.9	1783.2	Nahcolite with Oil Shale marly; Nahcolite, tan to buff, fine grain to microcrystalline beds and stringers with associated pyrite and white altered nahcolite; oil shale marly, light brown, even bedding, excellent competence, very low grade; overall: good to excellent competence.
1783.2	1786.7	Nahcolite and Oil Shale interbedded; Nahcolite, dark brown translucent microcrystalline and coarse crystalline pods and bands with associated white altered nahcolite and light brown fine crystalline nahcolite stringers and bands; Oil Shale; light olive brown, streaked bedding, low grade; overall: good competence, several scattered zones of pin-point nahcolite blebs; oil shale becomes light to medium olive brown from 1786.0-1786.7 few scattered asphaltic tuff stringers and 0.05 bands.
1786.7	1787.7	Oil Shale with nahcolite interbedded, Oil Shale; medium to dark olive brown, streaked bedding, medium to high grade; Nahcolite; dark brown medium to coarse crystalline nahcolite pods and bands with bladed and radiated structure and white altered nahcolite; overall: good competence; trace scattered asphaltic tuff streaks.
1787.7	1790.0	Nahcolite with oil shale interbedded, Nahcolite; tan to buff, microcrystalline to fine crystalline, nahcolite bands and beds; Oil Shale; light olive brown to buff, even bedding, very low grade, slightly marly; overall: good competence, trace scattered nahcolite blebs with pyrite rims; 0.20 asphaltic tuff band at 1788.6.
1790.0	1793.3	Halite with nahcolite and oil shale, Halite: white to light brown translucent, brittle, massive, Nahcolite: medium brown, medium coarse crystalline bands and stringers; Oil Shale: light olive brown, even bedding, low grade; Overall: fair competence; a 0.05 Halite core runs

From	To	
		through center of nahcolite and oil shale bands; 0.20 leached nahcolite vug at 1792.6.
1793.3	1801.5	Core loss 8.2'
1801.5	1803.9	Nahcolite with Oil Shale; Nahcolite: light to medium brown, medium to coarse crystalline bands and pods with associated white altered nahcolite and tan to brown microcrystalline nahcolite stringers and bands with associated white altered nahcolite; Oil Shale: light olive brown, even bedding, low grade; overall: excellent competence, 0.20 white to brown translucent Halite band at 1801.5; 0.10 light gray to buff, tuff lens at 1802.0; several scattered light gray to buff tuff blebs; numerous pinpoint nahcolite blebs; several scattered pyrite stringers; trace asphaltic tuff stringers.
1803.9	1811.5	Oil Shale, Halite and Nahcolite interbedded; Oil Shale: light gray brown, even bedding, low grade; Halite: white to light brown, translucent, brittle, hard, crystalline; Nahcolite: light brown to tan, fine crystalline nahcolite bands with associated white altered nahcolite; overall: good competence, trace pyrite stringers; trace white tuff blebs; 0.05 Halite core runs through much of oil shale and nahcolite beds.
1811.5	1813.8	Halite with Oil Shale interbedded, Halite: dark brown to light brown translucent, crystalline, brittle; Oil Shale: medium olive brown, streaked bedding, low to medium grade; overall: good competence; few scattered medium to dark brown, fine to medium crystalline nahcolite bands, associated white altered nahcolite; 0.05 Halite core runs through oil shale bands.
1813.8	1815.5	Core loss 1.7
1815.5	1816.7	Oil Shale and Nahcolite, Oil Shale: light olive brown, even bedding, low grade; Nahcolite: light medium brown, microcrystalline to fine grain with associated white altered nahcolite and light tan fine grain bands; overall: excellent competence; trace asphalt streaks; trace pyritic tuff streaks.
1816.7	1820.2	Oil Shale, medium olive brown, streaked bedding, excellent competence, medium grade; trace gilsonite streaks; several scattered buff marly streaks and stringers; several scattered pyrite blebs; 0.10 dark brown fine crystalline nahcolite band associated white altered nahcolite at 1817.3 and 1818.0, and a 0.10 patch at 1817.2; 0.10 dark brown medium crystalline nahcolite band with bladed and radiated structure at 1818.7; 0.20 medium to dark brown nahcolite pod with bladed and radiated structure at 1819.0, 1819.4, 1819.7 and 1820.0; 0.10 slightly asphaltic irregular tuff band at 1819.9 and several scattered blebs.

From	To	
1820.2	1821.6	Oil Shale and Nahcolite, Oil Shale: from 1820.2-1820.8 even bedding, dark olive brown, medium to high grade; Nahcolite: from 1820.8-1821.6, medium to dark brown, medium crystalline nahcolite bands with inter-bedded dark olive brown medium to high grade oil shale stringers with bladed and radiated structure and associated white altered nahcolite: 0.10 slightly asphaltic tuff lens at 1820.3, few scattered nodules from 1820.3-1820.5; trace gilsonite streaks; trace scattered pinpoint nahcolite blebs.
1821.6	1825.1	Oil Shale, light olive brown, streaked and even bedding, excellent competence, very low to low grade; trace gilsonite streaks; 0.20 light to medium brown, nahcolite pod with bladed and radiated structure and associated white altered nahcolite and trace pyrite rims at 1822.5, 1822.8, 1823.3, 1823.8, and 1824.2, 0.40 pod at 1825.0; 0.10 light brown fine crystalline nahcolite pod associated white altered nahcolite and pyrite rims at 1822.3, and a 0.05 band at 1823.0, and several scattered 0.05 pods; buff marly streaks and stringers common; trace pyrite blebs; trace asphalt streaks.
1825.1	1826.3	Nahcolite, medium to dark brown, medium to coarse crystalline with bladed and radiated structure and associated white altered nahcolite; a 0.1 dark olive brown high grained oil shale band at 1825.5.
1826.3	1827.6	Oil Shale, light olive brown to buff, irregular bedding, good to excellent competence, very low to low grade; slightly marly; dark brown medium to coarse crystalline 0.1 nahcolite pods with bladed and radiated structure common; a 0.1 band of fine crystalline tan nahcolite at 1827.5; trace asphalt streaks.
1827.6	1830.6	Oil Shale marly with nahcolite; Oil Shale marly, light gray brown, even with trace streaked and irregular bedding, fair competence, very low grade; Nahcolite, medium brown, medium crystalline, with associated white altered nahcolite bands and stringers; trace medium olive brown oil shale stringers; trace light brown fine crystalline nahcolite stringers; from 1829.5-1830.0 light brown to white translucent halite bed with associated oil shale stringers and nahcolite.
1830.6	1833.0	Oil Shale with Halite; Oil Shale, medium to dark olive brown to dark gray brown, streaked bedding, fair to good competence, high grade; Halite, white to light brown, translucent, crystalline, brittle; several white altered nahcolite stringers and blebs; pyrite blebs common; several scattered nahcolite blebs; trace pyrite streaks and stringers.
1833.0	1837.0	Oil Shale, medium to dark olive brown, streaked and even bedding, excellent competence, high grade; from 1833.0-1835.5 streaked bedding and from 1835.5-1837.0 even bedding, a 0.3 dark brown medium crystalline nahcolite band with associated white altered nahcolite at 1834.0 and 1836.8; from 1833.0-1834.5 pyrite blebs common; trace gilsonite streaks.

From	To	
1837.0	1839.6	Oil Shale, light olive brown, irregular with trace even bedding, good competence, low grade; few pyrite stringers; a 0.3 medium brown fine to medium crystalline band at 1837.2; a 0.2 fine crystalline tan nahcolite pod with pyrite rims at 1838.6 and 2-0.1 pod at 1838.9 and a 0.2 band at 1839.2; buff marly bands and stringers common.
1839.6	1844.6	Oil Shale, marly, light olive brown to light gray brown, even with trace irregular bedding, poor to fair competence, very low grade; tan fine crystalline to microcrystalline nahcolite bands and stringers common; trace gilsonite streaks; trace pyrite streaks and stringers; trace buff to white granular tuff stringers.
1844.6	1848.9	Nahcolite with Oil Shale marly, Nahcolite: tan microcrystalline nahcolite with associated white altered nahcolite; Oil Shale, marly: light brown gray, evenly inclined at 30° with trace irregular bedding, very low grade stringers and bands; overall: excellent competence; few scattered white tuff streaks; trace asphalt streaks; trace asphaltic tuff streaks.
1848.9	1853.5	Oil Shale, medium olive brown, streaked bedding, excellent competence, low to medium grade; abundant zones of pinpoint disseminated nahcolite with oil shale matrix; several scattered zones of pyrite blebs; several scattered medium brown, fine crystalline nahcolite streaks, stringers, and pods; few light to medium brown translucent, microcrystalline nahcolite patches; 0.40 medium brown, fine crystalline nahcolite band with associated white altered nahcolite at 1849.8, and at 1850.7.
1853.5	1854.7	Oil Shale, light olive brown, streaked bedding, excellent competence, low grade; few scattered buff marly streaks; 0.10 light brown fine crystalline nahcolite pod with pyrite rims at 1854.0; few scattered fine grain nahcolite blebs and 0.05 pods with pyrite rims; trace pyrite blebs; trace white tuff streaks.
1854.7	1856.7	Oil Shale and Nahcolite; Oil Shale: light to medium olive brown, even with trace irregular and streaked bedding, low to medium grade; Nahcolite: tan, fine crystalline irregular pods and bands with associated white altered nahcolite; overall: excellent competence; some contorted bedding around nahcolite pods; nahcolite blebs common; few scattered buff marly streaks and stringers; trace gilsonite streaks; few scattered pyrite blebs.
1857.2	1860.0	Oil Shale and Nahcolite interbedded; Oil Shale: medium to dark olive brown, streaked bedding, medium grade; Nahcolite: medium to dark brown, fine to medium crystalline nahcolite bands, trace associated white altered nahcolite; overall: excellent competence, buff marly streaks and blebs common; few scattered zones of pyrite blebs; few scattered white tuff blebs; trace scattered asphaltic tuff blebs; 0.10 root beer brown translucent microcrystalline pod at 1857.5; 0.10 light olive brown oil shale band at 1858.5; contorted bedding around nahcolite.

From	To	
1860.0	1862.7	Nahcolite with Oil Shale interbedded; Nahcolite: light to medium brown, fine to medium crystalline bands with trace associated white altered nahcolite; Oil Shale: light olive brown to light gray brown, even with trace irregular bedding, low grade; overall: excellent competence; several scattered zones of pinpoint disseminated nahcolite with oil shale matrix.
1862.7	1864.4	Nahcolite, light to medium brown, fine to medium crystalline with associated white altered nahcolite; 0.10 dark brown microcrystalline nahcolite pod at 1863.1 and few scattered 0.05 pods.
1864.4	1867.3	Oil Shale, light to medium olive brown - light gray brown, even bedding, excellent competence, low grade; 0.05 medium brown microcrystalline nahcolite band with associated pyrite rims at 1864.8; 0.10 medium brown, medium crystalline nahcolite pod with associated pyrite rims at 1864.9, 1865.2, and a 0.20 band at 1865.4 and 1866.4, and few scattered small pods; trace asphalt streaks; several scattered buff marly streaks and stringers; pyrite stringers common; 0.10 medium brown, medium to coarse crystalline nahcolite band with associated white altered nahcolite at 1867.2.
1867.3	1870.6	Oil Shale, medium olive brown to medium gray brown, streaked with trace even bedding, excellent competence, medium grade; 0.20 dark brown fine to medium crystalline nahcolite band with bladed and radiated structure and associated white altered nahcolite at 1867.6, 1869.7, 1870.3, and a 0.20 pod at 1869.2 and a 0.05 band at 1868.9; trace gilsonite streaks; several scattered pyrite streaks; trace asphalt streaks; several scattered buff marly streaks; trace asphaltic tuff streaks; trace pyritic tuff streaks and blebs.
1870.6	1875.4	Oil Shale, medium olive brown, even with streaked bedding, excellent competence, medium to high grade; pyrite streaks and stringers common; trace gilsonite streaks; trace pyrite blebs; several scattered buff marly streaks and stringers; trace pyritic tuff streaks; a 0.10 medium brown fine crystalline nahcolite pod with associated pyrite rims and bladed and radiated structure at 1874.5.
1875.4	1880.4	Oil Shale and Nahcolite interbedded; Oil Shale: light to medium olive brown, streaked with trace even and wavy bedding, low grade; Nahcolite: medium to dark brown fine to medium crystalline bands and pods with bladed and radiated structure, white altered nahcolite and trace pyrite rims; 0.30 band at 1876.5, 1877.0, and 1878.8; 0.10 pod at 1876.0, 1877.7, 1877.8, 1877.9 and several scattered 0.05 pods and dark root beer brown microcrystalline, translucent, pods and bands, 0.20 pod at 1875.4, 1875.6, a 0.10 at 1876.0; several scattered buff marly streaks and stringers.
1880.4	1884.9	Oil Shale, marly, light brown to buff, even bedding, excellent competence, very low grade; abundant buff marly streaks and stringers; 0.20 light brown microcrystalline, translucent, nahcolite band at 1881.4, 1881.7; few scattered zones of pinpoint disseminated pyrite; trace scattered pyrite blebs; several scattered 0.05 dark brown, medium crystalline nahcolite pods with bladed and radiated structure and

From	To	
		pyrite rims; several scattered pyritic tuff stringers.
1884.9	1891.1	Oil Shale, medium olive brown, streaked bedding, excellent competence, medium grade; several scattered zones of pyrite blebs; several scattered zones of pinpoint nahcolite blebs; trace asphalt streaks; several scattered asphaltic tuff streaks; few scattered 0.05 medium brown, medium crystalline nahcolite pods with bladed and radiated structure, associated pyrite rims and white altered nahcolite; 0.20 band medium brown pinpoint disseminated nahcolite with oil shale matrix at 1888.0 and 1888.5; 0.20 medium brown fine crystalline nahcolite band with trace pyrite rims at 1889.9 and 0.10 medium brown coarse nahcolite pod with bladed and radiated structure and associated white altered nahcolite and pyrite rims at 1889.4, 1889.5, 0.10 irregular patch of pyrite at 1890.7, 1891.1.
1891.1	1898.0	Oil Shale, light to medium olive brown to gray brown, even bedding, excellent competence, medium grade; abundant pyrite stringers; few scattered pyritic tuff stringers; several scattered buff marly streaks and stringers; trace gilsonite streaks; 0.20 band light brown medium crystalline nahcolite with abundant septa and associated pyrite rims at 1896.7; slightly argillaceous.
1898.0	1899.0	Nahcolite, medium to dark brown, fine to medium crystalline, bladed and radiated structure, associated white altered nahcolite, trace pyrite rims, excellent competence; trace light olive brown oil shale stringers.
1899.0	1901.2	Oil Shale, light olive brown to light brown, even with trace streaked and wavy bedding, excellent competence, low to medium grade; pyrite stringers abundant; 0.20 light brown fine crystalline nahcolite pod with bladed and radiated structure, white altered nahcolite and heavy pyrite rims at 1900.5, 0.10 pod at 1899.4; several scattered pyritic tuff streaks; several scattered buff marly streaks; 0.20 band of medium olive brown oil shale stringers at 1901.0.
1901.2	1904.5	Oil Shale, light gray brown to light olive brown, even bedding, low grade; excellent competence; pyrite stringers abundant; trace gilsonite streaks; several scattered buff marly streaks and stringers; 0.60 zone of light olive brown to light gray brown, very low grade, marly oil shale from 1901.4-1902.0; bedding becomes streaked from 1903.4-1904.5.
1904.5	1906.8	Nahcolite, light to medium brown, fine microcrystalline, translucent bands and fine disseminated nahcolite bands in oil shale matrix; few scattered light gray brown to buff marly oil shale stringers; associated white altered nahcolite and pyrite rims.
1906.5	1915.2	Oil Shale, medium olive brown, streaked bedding, excellent competence, medium grade; numerous scattered pyrite streaks, stringers, and blebs; several scattered zones of pinpoint disseminated nahcolite blebs; a zone of 0.05-0.10 nahcolite pods, bladed and radiated structure, pyrite rims, associated white altered nahcolite from 1906.5-1907.8; 0.10 dark brown fine crystalline nahcolite band at 1908.6, 1913.0,

From	To	
		a 0.20 band at 1914.7, a 0.05 band at 1913.4, 0.20 pod at 1910.3; few scattered buff marly streaks; few scattered asphaltic tuff streaks; few scattered pyrite streaks; several scattered pinpoint - 0.05 nahcolite pods; few scattered dark olive brown oil shale streaks and patches.
1915.2	1919.0	Oil Shale, medium olive brown to medium gray brown, streaked with even bedding, excellent competence, medium grade; slightly argillaceous; numerous scattered pyrite stringers and streaks; trace gilsonite streaks; trace asphaltic tuff streaks; few scattered buff marly streaks and stringers; bedding contorts around nahcolite pods; 0.10 tan microcrystalline, translucent, nahcolite pod with associated white altered nahcolite and pyrite rims at 1915.7, 0.60 band at 1918.4; 0.20 medium to dark brown, medium to coarse crystalline nahcolite pod with bladed and radiated structure, heavy pyrite rims at 1916.0, 1916.7, 1917.4 and 1918.2.
1919.0	1925.5	Oil Shale, light to medium olive brown to light gray brown, streaked with trace irregular bedding, excellent competence, low to medium grade; pyrite streaks and stringers common; few scattered buff marly streaks; several scattered pyrite nodules; trace asphaltic tuff streaks; trace pyritic tuff streaks; several scattered 0.05 medium brown, fine crystalline nahcolite pods and stringers, 0.10 at 1922.4, 1924.6; trace scattered 0.05 tan microcrystalline nahcolite pods with abundant white altered nahcolite and pyrite rims.
1925.5	1929.7	Oil Shale, medium olive brown, even with trace irregular bedding, excellent competence, medium to high grade; pyrite stringers common; several scattered buff marly streaks; 0.50 medium dark brown, medium coarse crystalline nahcolite band with bladed and radiated structure, abundant septa, heavy pyrite rims at 1927.3, 0.70 at 1928.4; 0.10 medium brown, fine crystalline nahcolite pod with bladed and radiated structure and pyrite rims at 1928.0, few scattered 0.05 pods.
1929.7	1938.2	Nahcolite with Oil Shale; Nahcolite: tan, microcrystalline, beds and bands, associated white altered nahcolite trace pyrite rims and light brown to light gray brown, pinpoint disseminated nahcolite in oil shale matrix; Oil Shale: light to medium olive brown medium gray brown, streaked with trace even and irregular bedding, low to medium grade, bands and stringers; overall: excellent competence; 0.20 oil shale band at 1930.4, 1933.3, 1936.3; 0.50 band at 1934.9, 1935.4, at 1935.5, 1936.0; numerous scattered oil shale stringers; few scattered dark brown, fine crystalline, nahcolite blebs and 0.05 pods at 1931.6, 1932.1; trace pyrite stringers; trace pyritic tuff stringers; oil shale bedding becomes contorted in association with nahcolite.
1938.2	1950.7	Oil Shale, medium to dark olive brown, streaked bedding, excellent competence, medium grade; numerous scattered pyritic tuff blebs and streaks; several scattered zones of nahcolite blebs; several scattered 0.05 medium to dark brown, medium crystalline nahcolite pods; 0.30 medium to brown medium crystalline nahcolite pod with pyrite rims, associated white nahcolite and bladed and radiated structure at 1939.6, 1940.5, 1940.7, 1941.0, 1945.1, 1946.6, 1948.5, 0.20 bands at 1940.1, 1942.3, 1945.2, 1948.3, 1949.2; 0.10 light to medium brown, fine to

From	To	
		medium crystalline nahcolite bands with associated pyrite rims at 1946.3, 1946.5, 1947.2, and 1947.4; 0.20 band at 1945.7; 0.10 band tan fine disseminated nahcolite in oil shale matrix at 1948.0; several scattered zones of pinpoint disseminated pyrite.
1950.7	1953.0	Oil Shale, medium to dark olive brown, streaked bedding, excellent competence, high grade; trace buff marly streaks and blebs; trace pyrite stringers; trace gilsonite streaks; 0.30 dark brown medium to coarse crystalline nahcolite band with bladed and radiated structure and pyrite rims at 1950.8, 0.10 band at 1951.4, 0.10 pods at 1951.8 and 1952.0, several scattered nahcolite blebs and 0.05 pods.
1953.0	1954.0	Nahcolite, dark brown, fine crystalline, trace pyrite rims, excellent competence; 0.10 medium olive brown, medium grade oil shale band at 1953.1 and 0.05 at 1953.4.
1954.0	1957.2	Nahcolite and Oil Shale interbedded; Nahcolite: light to medium brown, fine crystalline to finely disseminated nahcolite bands, associated white altered nahcolite; Oil Shale: light olive brown, even bedding, low grade bands; overall: excellent competence; 0.60 nahcolite band at 1954.0, 0.30 at 1954.9, 0.40 at 1954.5, 0.20 at 1956.8; 0.05 medium brown, microcrystalline nahcolite pod at 1956.5; trace gilsonite streaks; trace disseminated pinpoint pyrite.
1957.2	1963.0	Oil Shale, medium olive brown, streaked bedding, excellent competence, medium grade; several scattered buff marly streaks and blebs; several scattered zones of pinpoint nahcolite blebs; trace asphalt streaks and trace scattered pyritic tuff streaks; 0.10 medium to dark brown, medium to coarse crystalline nahcolite bands with bladed and radiated structure, associated white altered nahcolite and pyrite rims at 1958.9, 1960.4, 0.10 pods at 1958.4, 1958.5, 1958.6, and 1958.7, 0.20 pod at 1961.2, zone of 0.05-0.10 pods at 1960.5-1960.9.
1963.0	1964.6	Oil Shale, light olive brown, streaked bedding, excellent competence, low grade; slightly marly; light tan marly stringer at 1963.2; trace pyrite blebs; zone 0.10 medium brown, medium crystalline nahcolite pods with bladed and radiated structure associated white altered nahcolite and pyrite rims from 1963.4- 1963.8; 0.40 band medium brown, microcrystalline nahcolite associated white altered nahcolite at 1964.0.
1964.6	1975.3	Oil Shale, light to medium olive brown, streaked bedding, excellent competence, medium grade; a 0.4 light to medium brown fine crystalline to microcrystalline and disseminated nahcolite band at 1965.5 and 1967.0; a 0.2 dark brown medium to coarse crystalline nahcolite pods with bladed and radiated structure and pyrite rims at 1966.0, 1968.1, and 1968.6, several 0.1 pods at 1966.7, 1969.0, and 1970.3 from 1971.0-1974.0 a zone of abundant dark brown coarse crystalline nahcolite pods with bladed and radiated structure and associated white altered nahcolite and pyrite rims; from 1974.8-1975.3 a 0.4 band of dark brown coarse crystalline nahcolite with bladed and radiated structure and associated white altered nahcolite and pyrite rims; light brown to buff marly streaks and stringers common; trace pyrite streaks and blebs; trace asphaltic streaks and stringers.

From	To	
1975.3	1976.6	Oil Shale, light to medium olive brown to light medium gray brown, irregular with trace even bedding, excellent competence, low to medium grade; several scattered tan to buff marly stringers; trace pyrite streaks.
1976.6	1982.9	Nahcolite and Oil Shale interbedded; Nahcolite: ranges from micro-crystalline to coarse and from light to dark brown, beds and pods; Oil Shale, light olive brown, irregular with trace even and wavy bedding, excellent competence, low grade; a 0.6 band of dark brown medium crystalline nahcolite with bladed and radiated structure, white altered nahcolite and pyrite rims from 1977.3-1977.9 and from 1982.3-1982.9, and a 0.3 band at 1976.6, and a 0.2 pod at 1977.2; a 0.8 band of fine to medium crystalline medium brown nahcolite with bladed and radiated structure from 1978.3-1979.1, and a 0.2 pod at 1981.1; a 0.7 band of medium crystalline light to medium brown nahcolite with bladed and radiated structure and white altered pyrite from 1979.4-1980.2; a 0.4 dark brown fine crystalline to micro-crystalline nahcolite pod with heavy associated altered pyrite at 1980.4; a 0.3 pod at 1981.5; several buff marly stringers; trace pyrite stringers.
1982.9	1984.0	Oil Shale with Nahcolite; Oil Shale, dark olive brown, even bedding, excellent competence, high grade; Nahcolite, dark brown, fine crystalline, bladed and radiated structure, pyrite rims; overall: good competence, from 1983.4-1984.0 zone of nahcolite pods and bands common; trace pyrite streaks and stringers.
1984.0	1996.8	Oil Shale, medium to dark olive brown, streaked bedding, excellent competence, medium to high grade; light brown to buff stringers and blebs common; asphalt stringers and streaks common; pyrite streaks, stringers, and blebs common; a 0.05 dark brown to dark gray brown, fine crystalline nahcolite band with associated pyrite at 1985.4; a 0.1 band of medium brown medium to coarse crystalline nahcolite at 1986.9 and a 0.4 band at 1996.5, and a 0.1 pod at 1988.7 and 1991.7; a 0.3 band of medium brown pinpoint disseminated nahcolite in oil shale matrix at 1990.5; from 1993.7-1994.6 a zone of trace finely disseminated nahcolite.
1996.8	2007.0	Oil Shale, light olive brown to light gray brown, even with irregular bedding, excellent competence, low to medium grade; abundant pyrite streaks, stringers, and blebs; trace asphalt streaks; a 0.3 dark brown coarse grain nahcolite pods with bladed and radiated structure and associated pyrite rims at 1997.0 and 1997.9, a 0.2 band at 2002.2, a 0.2 pod at 2004.6, 2005.3, and a 0.1 pod at 2004.8 and 2005.0 and a 0.7 band at 2003.6; bedding becomes inclined at 30° in association with nahcolite; zone of 0.20 light to medium brown, fine crystalline nahcolite pods with bladed and radiated structure and pyrite rims from 2005.5-2006.6; 0.10 dark brown, microcrystalline nahcolite band at 2006.7 and 0.05 at 2006.9.

From	To	
2007.0	2011.0	Oil Shale, medium olive brown and light olive brown banded, even bedding, excellent competence, low to medium grade; several scattered buff marly streaks; 0.30 band of light brown, fine to medium crystalline 0.05 nahcolite pods with bladed and radiated structure and white altered nahcolite at 2008.6; medium brown, fine crystalline, 0.10 nahcolite pod with associated pyrite rims at 2009.5 and several scattered 0.05 pods; 0.20 dark brown coarse crystalline nahcolite band with bladed and radiated structure and associated white altered nahcolite at 2009.8; and 0.30 irregular patch at 2010.2.
2011.2	2035.5	Oil Shale, light to medium olive brown, streaked with even bedding, excellent competence, low to medium grade; bedding becomes even from 2017.7-2018.2, 2020.1-2020.8, 2027.4-2027.9; bedding becomes contorted around nahcolite pods; several scattered white tuff blebs and nodules; several scattered pyritic tuff blebs and streaks; 0.20 white, slightly pyritic, tuff lens at 2013.5; numerous pinpoint - 0.05 nahcolite blebs scattered throughout; several scattered dark olive brown, high grade oil shale streaks and stringers; 0.20 tan to buff, finely disseminated nahcolite band in oil shale matrix at 2015.3; several scattered asphaltic tuff streaks; 0.10 medium brown, medium crystalline nahcolite band at 2015.7; 0.20 at 2018.7, 2020.8, 2032.3, 0.20 pod at 2016.4 and 2029.0, zone of 0.10 pods from 2026.6-2027.4; 0.05 band of dark olive brown high grade oil shale at 2026.3.
2035.5	2038.4	Nahcolite, dark brown, medium to coarse crystalline, bladed and radiated structure, slightly pyritic rims; from 2035.5-2036.6 light olive brown low grade stringers common; from 2037.0-2038.4 several medium olive brown to medium gray brown medium to high grade oil shale stringers and bands.
2038.4	2039.8	Oil Shale, medium to dark olive brown, irregular with trace even bedding, excellent competence, high grade; pyrite streaks and stringers common; several light brown marly stringers and blebs.
2039.8	2042.4	Oil Shale, light olive brown, even to nearly massive bedding, excellent competence, low grade; trace pinpoint - 0.05 pyrite blebs and nodules; a 0.2 band dark brown medium crystalline nahcolite with bladed and radiated structure and trace pyrite rims at 2040.3 and 2042.0; a 0.20 band of dark brown coarse crystalline nahcolite with bladed and radiated structure at 2040.8 and a 0.2 zone of 0.05-0.10 pods; trace buff marly 0.1 bands at 2041.6.
2042.4	2052.4	Oil Shale, medium olive brown, streaked bedding, excellent competence, medium grade; abundant pyrite streaks, stringers, and blebs; trace scattered light brown to buff marly blebs and streaks; trace asphalt streaks; trace gilsonite streaks; trace pinpoint white tuff blebs; a 0.2 band medium brown medium crystalline nahcolite band at 2043.0 and a 0.60 zone of 0.05-0.1 pods abundant, a 0.5 band at 2058.5; a 0.4 band of fine to medium crystalline medium brown nahcolite with bladed and radiated structure at 2056.5 and a 0.3 band at 2056.9, and from 2057.2-2058.4 trace pinpoint - 0.05 nahcolite pods.

From	To	
2052.4	2055.9	Oil Shale, medium to dark olive brown to dark gray brown, irregular with even and trace looped bedding; excellent competence, medium to high grade; abundant pyrite streaks and stringers; a 0.2 zone of contorted bedding at 2062.8 and 2064.7.
2055.9	2057.0	Oil Shale, light to medium olive brown, streaked with trace banding, excellent competence, medium grade; trace pyrite blebs; numerous buff marly streaks and blebs; trace gilsonite streaks.
2057.0	2061.0	Oil Shale, medium olive brown, streaked bedding, excellent competence, medium to high grade; numerous buff marly streaks and blebs; trace asphaltic tuff streaks; trace gilsonite streaks; few scattered pyrite streaks and stringers.
2061.0	2062.1	Oil Shale, dark olive brown, even bedding, excellent competence, very high grade; fish fossils in parting at 2061.8; trace gilsonite streaks; few buff marly streaks; trace asphaltic tuff streaks.
2062.1	2065.5	Oil Shale, marly, medium brown gray, even bedding, good competence, very low grade; several planar shaly partings; trace gilsonite streaks; several scattered white tuff streaks; several scattered pyrite stringers.
2065.5	2068.6	Oil Shale, medium to dark olive brown, even with trace irregular bedding, excellent competence, medium grade; several scattered buff marly streaks and blebs; trace pyrite stringers; trace white tuff stringers; gradational contact.
2068.6	2072.5	Oil Shale, dark olive brown to black, even bedding, excellent competence, high to very high grade; trace white tuff streaks; trace pyritic tuff streaks; gradational contact.
2072.5	2075.5	Oil Shale, dark olive brown to dark gray brown, even bedding, excellent competence, high grade; trace pyrite stringers; trace gilsonite streaks; trace asphaltic tuff streaks; 0.05 pyrite; asphaltic tuff nodules at 2072.5; trace white tuff streaks.
2075.5	2077.1	Oil Shale, medium olive brown, streaked bedding, excellent competence, medium grade; several scattered buff marly streaks and blebs; trace gilsonite streaks; few scattered asphaltic tuff stringers; 0.10 dark brown medium crystalline nahcolite pod at 2076.7.
2077.1	2078.9	Nahcolite, medium to dark brown, fine to medium crystalline with trace bladed and radiated structure and trace medium olive brown oil shale stringers; excellent competence.
2078.9	2079.8	Oil Shale, light to medium olive brown, streaked with trace irregular bedding, excellent competence, low to medium grade; few scattered buff marly streaks; 0.20 medium brown, medium crystalline, nahcolite pod at 2079.3; trace medium olive brown, medium grade oil shale streaks.

From	To	
2079.8	2083.3	Oil Shale with Nahcolite, light olive brown, even bedding, excellent competence, very low to low grade; Nahcolite: light to medium brown, fine to medium crystalline, with bladed and radiated structure and associated white altered nahcolite in pods and bands; 0.20 pod at 2080.9, 0.20 band at 2081.4, 2081.7, 2082.5, 2083.0, 0.10 band at 2082.2; trace fine disseminated nahcolite stringers with oil shale matrix; trace light to medium olive brown, low grade oil shale stringers.
2083.3	2094.3	Oil Shale, medium olive brown, streaked bedding, excellent competence, medium grade; abundant scattered buff marly streaks and blebs; trace gilsonite streaks; trace asphaltic tuff streaks; trace pyrite blebs; 0.10 medium brown, fine grain nahcolite pod with associated white altered nahcolite and heavy rims at 2084.7, 2085.1, 0.10 bands at 2086.3, 2089.7 and 2094.2; a zone of medium brown, medium to coarse crystalline 0.10 and 0.20 nahcolite pods with bladed and radiated structure and heavy pyrite rims from 2090.6-2091.7; 0.5 pod from 2091.1-2091.6, and a few scattered 0.05 pods.
2094.3	2099.4	Oil Shale, light olive brown to light gray brown, even with trace looped bedding, excellent competence, low grade; few scattered gray siltstone stringers; numerous marly stringers; few scattered dark olive brown oil shale stringers; trace pyritic tuff streaks; 0.30 band of irregular pyrite streaks and nodules at 2096.5, pyrite nodule at 2098.4; zone contorted bedding 0.20 in length at 2098.2.
2099.1	2101.3	Oil Shale, light to medium olive brown, even with trace looped and wavy bedding, excellent competence, low to medium grade; numerous buff marly streaks and stringers; trace pyritic tuff streaks; 0.20 medium brown, medium crystalline nahcolite band with white altered nahcolite and pyrite rims at 2100.3 and 2100.6; bedding becomes contorted with nahcolite pods.
2101.3	2105.5	Oil Shale, medium olive brown to medium brown, streaked bedding, excellent competence, medium grade; numerous buff marly streaks and blebs; several pyritic tuff streaks; trace gilsonite streaks; 0.10 medium brown, medium crystalline nahcolite band with white altered nahcolite at 2100.5.
2105.5	2106.5	Nahcolite, medium brown, fine disseminated nahcolite with oil shale matrix; trace pyrite rims; excellent competence.
2106.5	2109.1	Oil Shale, light olive brown, streaked bedding, excellent competence, low grade; trace scattered medium olive brown oil shale stringers; trace buff marly streaks and blebs; 0.10 medium brown, medium coarse crystalline nahcolite pod at 2106.6, 2107.3, 0.20 pod at 2108.8, 0.10 band at 2108.3, 0.30 band at 2106.8.
2109.1	2123.8	Oil Shale, medium to dark olive brown, streaked bedding, excellent competence, medium to high grade; few scattered pyrite blebs; trace gilsonite streaks; trace pyritic tuff streaks; trace asphaltic tuff streaks; 0.70 zone of dark brown, coarse crystalline nahcolite, with abundant septa and pyrite rims from 2109.8-2110.5; 0.20 dark brown,

From	To	
		medium crystalline nahcolite pod with heavy pyrite rims and bladed and radiated structure at 2112.4, 0.30 band at 2118.0, 2120.2, 0.40 band at 2123.5; several scattered buff marly streaks and stringers; 0.05 pyrite nodule at 2123.2.
2123.8	2126.6	Oil Shale, light olive brown, even with trace looped bedding, excellent competence, low grade; numerous scattered buff marly streaks and stringers; trace scattered medium olive brown oil shale stringers; trace gilsonite streaks; few scattered pyrite stringers; 0.20 medium brown, medium crystalline nahcolite band with bladed and radiated structure and pyrite rims at 2125.3, 0.10 pod at 2125.4; 0.5 band at 2125.5.
2126.6	2130.5	Oil Shale, light to medium olive brown, streaked bedding, excellent competence, low to medium grade; abundant buff marly streaks and stringers; few scattered medium olive brown oil shale streaks; 0.05 pyrite bleb at 2127.7; few scattered pyrite streaks and stringers; few scattered gilsonite streaks.
2130.5	2133.8	Oil Shale, light olive brown, streaked bedding, good to excellent competence, low grade; abundant tan to buff marly streaks and stringers; few scattered gilsonite streaks; zone of light blue gray granular analcitized tuff streaks and stringers from 2132.1-2132.6; two 0.05 pyrite blebs at 2133.4; 0.05 nahcolite pod with associated pyrite rims at 2133.5.
2133.8	2142.2	Oil Shale, medium olive brown, streaked with trace even bedding, excellent competence, medium grade; abundant tan to buff marly streaks and stringers; few scattered medium brown oil shale stringers; several scattered gilsonite streaks and stringers; several scattered pyrite streaks; 0.10 dark brown, fine grained nahcolite pod at 2133.9; 0.25 dark brown, medium crystalline nahcolite pod at 2134.1.
2142.2	2146.9	Oil Shale, medium olive brown to medium brown, even with trace looped and irregular bedding, excellent competence, medium grade; few scattered buff marly streaks and stringers; blue gray green analcitized tuff stringers; several dark brown, high grade oil shale stringers; trace scattered pyrite streaks; trace scattered gilsonite streaks.
2146.9	2149.1	Oil Shale, marly, light olive brown to tan, looped and irregular bedding, excellent competence, very low grade; few scattered medium brown, medium grade oil shale stringers; few scattered 0.05 light brown, fine grain nahcolite blebs.
2149.1	2154.3	Oil Shale, light olive brown, streaked and even bedding, excellent competence, low grade; abundant tan to buff marly streaks, stringers, and blebs; several scattered medium brown, fine grain nahcolite blebs; few scattered light blue gray granular analcitized tuff streaks and stringers; trace pyrite streaks.

From	To	
2154.3	2159.4	Oil Shale, medium to dark olive brown to dark gray brown, even with looped bedding, excellent competence, high grade; few scattered buff marly streaks and stringers; abundant kaolinite associated with solution fracture zones from 2154.7-2155.9; trace scattered gilsonite streaks; pyrite streaks and stringers common; 0.05 tan marly band at 2159.2.
2159.4	2161.0	Oil Shale, medium olive brown, streaked bedding, excellent competence, medium grade; abundant buff marly streaks; abundant pyrite streaks and stringers; several scattered pinpoint nahcolite blebs.
2161.0	2163.4	Oil Shale, light olive brown, looped, streaked, and irregular bedding, excellent competence, low grade; several scattered medium brown, medium grade oil shale stringers; several scattered pinpoint nahcolite blebs; several scattered buff marly streaks and stringers; 0.1 buff marly bleb at 2163.0; trace gilsonite streaks; several scattered pyrite streaks and stringers.
2163.4	2166.2	Oil Shale, medium olive brown to medium gray brown, even with trace looped bedding, good competence, medium to high grade; several scattered gilsonite streaks; several scattered pyrite streaks and stringers; kaolinite streaks and stringers abundant; few scattered buff marly stringers and bands.
2166.2	2171.0	Oil Shale, medium olive brown to medium gray brown, even bedding, excellent competence, medium grade; several scattered pyrite stringers and bands; several gilsonite streaks; few scattered buff marly streaks and stringers; trace small nahcolite blebs.
2171.0	2172.1	Oil Shale marly, light olive brown, even with irregular bedding, good competence, very low grade; few scattered medium brown, medium grade, oil shale stringers; abundant pyrite stringers and lamina; trace gilsonite streaks.
2172.1	2177.5	Oil Shale, medium olive brown to medium gray brown, even with trace irregular bedding, good competence, medium to high grade; abundant pyrite streaks, stringers, and lamina; gilsonite streaks common; 0.05 buff marly band at 2175.1; few scattered buff marly streaks and stringers; trace scattered pinpoint nahcolite, several scattered asphaltic tuff streaks; gradational contact.
2177.5	2183.4	Oil Shale; medium olive brown to medium gray brown, even with trace looped bedding, excellent competence, medium grade; numerous pyrite streaks and stringers; trace gilsonite streaks; buff marly streaks and stringers common; several scattered pyrite blebs and nodules; trace scattered pyritic tuff streaks; slightly argillaceous; trace scattered asphaltic tuff streaks; gradational contact.
2183.4	2188.0	Oil Shale; light olive brown to light gray brown, even with trace looped; contorted bedding, excellent competence, low to medium grade; pyrite streaks and stringers; several scattered pyrite blebs; .05 pyrite band at 2183.8 and at 2184.7; buff marly streaks and stringers common; several scattered medium olive brown medium grade oil shale

From	To	
		stringers; slightly argillaceous.
2188.0	2189.8	Oil Shale; light olive brown to buff, even with trace looped and contorted bedding, fair competence, very low to low grade; .4 buff fine grained, fine crystalline nahcolite band with pyrite rims from 2181.1-2181.5 and a .1 band at 2181.6; several planar partings with gilsonite and pyrite; several buff marly streaks; several pyrite streaks and stringers.
2189.8	2195.1	Oil Shale; light to medium olive brown to medium gray brown, even with trace looped bedding, excellent competence, low to medium grade; pyrite streaks and stringers common; numerous buff marly streaks and stringers; trace light gray siltstone streaks; trace gilsonite streaks; few scattered dark olive brown oil shale stringers; few light blue gray granular analcitized tuff stringers; .05 asphaltic pyrite tuff lens at 2190.7, and a .05 band at 2189.9 and 2191.2.
2195.1	2204.0	Oil Shale; medium to dark olive brown, even with looped and contorted bedding, excellent competence, medium grade; several scattered buff marly streaks and stringers; few scattered pyrite stringers; .1 medium to dark brown medium crystalline nahcolite band at 2195.2; .3 zone of medium brown, fine to medium crystalline nahcolite pods with bladed and radiated structure and pyrite rims at 2195.8, .05 dark brown, fine crystalline nahcolite band with associated white altered nahcolite at 2196.9; .3 medium brown fine to medium crystalline nahcolite pod with bladed and radiated structure and pyrite rims at 2197.3, 2197.8, and at 2200.8, and a .1 band at 2199.4, and a .3 band at 2199.7; several scattered 0.05 fine crystalline nahcolite pods with heavy pyrite rims; bedding contorted around nahcolite bands and pods; a .1 fine microcrystalline nahcolite band at 2202.8, .1 buff fine crystalline nahcolite band with white altered nahcolite at 2203.4 and a .05 at 2203.7.
2204.0	2205.7	Oil Shale; medium olive brown, streaked with trace contorted bedding, excellent competence, medium to high grade; a .5 zone medium brown microcrystalline to fine crystalline nahcolite stringers and bands with associated white altered nahcolite from 2204.0-2204.5; several buff marly streaks and stringers; a .05 asphaltic tuff lens at 2205.2, a .1 pyrite asphalt tuff lens at 2205.4; trace asphaltic tuff streaks; trace pyrite nodules.
2205.7	2212.6	Nahcolite and Oil Shale; light brown to tan, fine grain to microcrystalline, medium brown fine grain pods and bands; light to medium olive brown, even with streaked and trace irregular bedding, medium grade; overall: good competence; 0.05 band of light brown to buff fine grain nahcolite at 2205.8, 2205.9, 2206.0, 2206.1, 2206.2, 2206.4, 2207.2, 2207.4, 2207.6, 0.2 band at 2206.7, 2208.7, trace scattered 0.05 pods; .02 band tan microcrystalline nahcolite at 2207.6; 0.4 band medium brown fine grain nahcolite at 2209.1, 0.1 band at 2209.8, 0.05 band at 2210.9, 0.1 pod at 2208.2 and 2208.4; 0.9 medium brown fine grain nahcolite with irregular structure at 2211.4; abundant scattered pinpoint nahcolite with white altered nahcolite; trace medium brown medium grade oil shale streaks and

From	To	
		stringers; trace light brown to buff marly streaks and blebs; trace pyrite blebs associated with pinpoint nahcolite.
2212.6	2219.5	Oil Shale with Nahcolite; light olive brown, even to massive with trace streaked bedding, excellent competence, low grade; trace light brown to buff marly blebs and streaks; trace dark gray pyrite blebs; trace light gray to white slightly pyritic tuff stringers; dark brown coarse grain nahcolite with bladed and radiated structure and associated pyrite rims and white altered nahcolite, 0.3 band at 2214.3, 2215.0, 2215.6, 0.2 pod at 2214.6, 2214.8, 2216.2, 0.1 band at 2216.1; medium brown, fine to medium crystalline bands, 0.2 band at 2216.6, 2218.9, 0.1 band at 2216.5, 2216.9, 2219.4; trace pinpoint nahcolite.
2219.5	2232.9	Oil Shale with Nahcolite; light olive brown, streaked with trace massive bedding, excellent competence, low grade; abundant light brown to buff marly blebs and streaks; several scattered dark gray pyrite blebs; 0.3 band light brown to buff marlstone at 2229.9; 0.6 band medium brown, medium green nahcolite with bladed and radiated structure at 2223.7; 0.7 dark brown coarse crystalline nahcolite with bladed and radiated structure and associated pyrite rims at 2224.6 and 2226.8, 0.2 pod at 2225.2, 2225.8, 2228.9, 2229.1, 2229.6, 2230.2, 2230.6, 2230.8, 0.2 band at 2231.1, 0.5 zone scattered dark brown coarse crystalline nahcolite with bladed and radiated structure from 2226.4-2226.8, 0.3 band medium brown fine grain nahcolite with white altered nahcolite at 2223.1, 0.1 band at 2222.8, 0.05 pod at 2221.2, 2221.5, 2223.5, abundant scattered pinpoint nahcolite blebs.
2232.9	2235.0	Nahcolite; dark brown coarse crystalline with bladed and radiated structure and associated pyrite rims.
2235.0	2246.6	Oil Shale with Nahcolite; light brown to buff with medium dark olive brown band, irregular with looped, wavy and trace even bedding, excellent competence, low to medium grade; trace dark gray pyrite blebs; trace scattered light brown to buff marly blebs and streaks; trace dark brown asphaltic stringers and streaks; trace gilsonite streaks; trace medium gray pyrite streaks and stringers; 0.4 dark brown coarse crystalline nahcolite, bladed and radiated structure and associated pyrite rims at 2237.3, 2238.9, 0.3 band at 2240.6, 0.2 pod at 2240.1, 2242.1, 2242.4, zone 0.05-0.1 pods from 2241.0-2241.7, 0.1 pod at 2239.6, 2239.7, 2239.9, 2242.9; 0.2 medium brown medium crystalline nahcolite pods with bladed and radiated structure at 2243.3, 0.3 pod at 2243.8, 0.1 pod at 2244.7, 0.2 at 2245.8.
2246.6	2259.0	Nahcolite and Oil Shale; light olive brown, massive to irregular bedding, excellent competence, low grade; trace light brown to buff marly streaks and stringers; several scattered medium olive brown, low to medium grade oil shale stringers; few scattered white calcareous streaks; abundant pinpoint nahcolite; 0.05 medium brown, coarse crystalline nahcolite pods with bladed and radiated structure at 2246.7, 2248.5, 2251.0, 2253.9, with white altered nahcolite at 2250.9, 2251.2, 2251.7, 2251.9, 2252.9, 2253.8, 2254.0, 2255.2, 2255.3; 0.20 pod medium brown, medium crystalline nahcolite with associated pyrite rims at 2248.3,

From	To	
		2250.1, 2258.7, 2257.5, 2257.7; 0.1 pods medium brown, fine to medium crystalline with associated pyrite rims and white altered nahcolite 2248.5, 2251.3, 2251.6, 2251.8, 2252.5, 2253.9, 2255.0, 2257.7; 0.20 nahcolite band light to medium brown, medium to coarse crystalline with white altered nahcolite at 2254.8; 0.80 medium brown, medium crystalline nahcolite band at 2247.3, 0.60 band at 2249.3 0.20 light brown, fine crystalline nahcolite band with white altered nahcolite at 2251.0, 0.3 band at 2251.4, 0.4 dark brown fine crystalline nahcolite band with white altered nahcolite at 2253.4, 0.3 band at 2254.4, 0.6 band of light to medium brown, fine to microcrystalline with white altered nahcolite at 2256.1.
2259.0	2262.9	Oil Shale and Nahcolite, Oil Shale: light to medium olive brown, contorted with trace looped and even bedding, excellent competence, low grade; abundant pinpoint nahcolite; several scattered buff marly streaks and stringers; trace gilsonite streaks; Nahcolite: zone of abundant medium to dark brown, medium to coarse crystalline 0.20 nahcolite pods and bands from 2259.1-2262.0; 0.1 medium brown, fine crystalline nahcolite band at 2262.7; 0.1 dark brown, coarse grained nahcolite pods with white altered nahcolite at 2259.5, 2261.0, 2261.5, 2262.2.
2262.9	2265.5	Oil Shale with Nahcolite; Oil Shale: medium olive brown to medium gray brown, streaked bedding, excellent competence, low to medium grade; abundant buff marly streaks and blebs; few scattered pinpoint nahcolite blebs; trace gilsonite and pyrite streaks; Nahcolite: 0.1 dark brown, coarse crystalline, nahcolite blebs scattered throughout, 0.3 band with associated white altered nahcolite at 2263.0, 0.1 pod at 2264.4, 0.2 band at 2264.7.
2265.5	2272.6	Oil Shale, light to medium olive brown, streaked with irregular bedding, excellent competence, low to medium grade; several scattered pyrite streaks; pinpoint nahcolite fairly common; buff marly streaks and stringers common; 0.2 dark brown, coarse crystalline, nahcolite bands at 2265.5, 2265.8, 0.2 pod 2268.1, with white altered nahcolite at 2268.5, 0.1 band at 2269.3, 0.4 band 2269.6, 0.2 band at 2270.1, zone of 0.01 blebs at 2272.0 and 2272.5, 0.1 pod at 2272.6.
2272.6	2277.0	Oil Shale marly, light olive brown to light gray brown, streaked with irregular and contorted bedding, excellent competence, very low to low grade; abundant white to buff marly band, streaks, stringers, and blebs; few scattered gilsonite streaks; few scattered pyrite streaks; small white green tuff stringer at 2275.7; zone of 0.01 medium brown coarse crystalline nahcolite blebs at 2274.0; 0.1 medium brown, medium to coarse crystalline nahcolite pod with bladed and radiated structure at 2273.1, 2273.3, 0.05 pods at 2273.5, 2273.6, 2275.5, 0.20 pod at 2274.6, 0.1 band at 2276.5, 0.2 band at 2276.2.

From	To	
2277.0	2278.3	Oil Shale, dark olive brown to dark brown, even with trace looped and streaked bedding, excellent competence, high grade; few scattered light gray pyritic tuff streaks and stringers; trace scattered buff marly streaks; trace gilsonite streaks.
2278.3	2281.4	Nahcolite, dark brown, coarse crystalline, with bladed and radiated structure and associated white altered nahcolite from 2278.3-2280.0, medium brown, fine to medium crystalline, nahcolite with bladed and radiated structure and associated white altered nahcolite from 2280.0-2281.4; excellent competence.
2281.4	2285.7	Oil Shale, light to medium olive brown, even, contorted, looped with streaked bedding, excellent competence, low grade; abundant white to buff marly streaks, stringers, and blebs; several scattered medium olive brown, low to medium grade oil shale stringers; several scattered gilsonite and pyrite streaks, trace pyritic tuff stringers; trace asphalt streaks; 0.1 medium to dark brown, coarse crystalline nahcolite band with white altered nahcolite at 2281.5, 2281.7, 0.15 pod at 2282.0, 0.20 pod at 2285.5.
2285.7	2290.1	Oil Shale; light olive brown, streaked bedding, excellent competence, low to medium grade; buff marly streaks and blebs common; few scattered dark olive brown oil shale streaks; trace gilsonite streaks; few scattered pyrite blebs; few scattered asphalt streaks; .1 buff siltstone band at 2288.6; becomes massive from 2289.6-2290.1.
2290.1	2295.3	Oil Shale; light to medium olive brown to medium gray brown, streaked with trace even, looped, irregular, and offset bedding, excellent competence, low grade; slightly argillaceous; abundant buff marly streaks and blebs; bleeding asphaltic tuff bleb at 2290.8 and 2290.9; several scattered pyritic tuff blebs, trace gilsonite streaks; .05 buff marlstone band at 2292.7; zone of numerous light blue gray silty streaks, stringers, and blebs from 2293.1-2294.1; zone of pinpoint white altered nahcolite from 2294.5-2294.9; .05 band of dark brown fine crystalline nahcolite at 2294.7.
2295.3	2296.9	Oil Shale; medium olive brown, even with trace streaked and looped bedding, excellent competence, medium grade; several scattered buff marly streaks and blebs; few scattered dark olive brown oil shale streaks; trace asphalt streaks; several scattered blue gray silty streaks and stringers; trace asphaltic tuff streaks.
2296.9	2298.2	Nahcolite; medium brown, fine crystalline, trace associated white altered nahcolite; excellent competence; medium olive brown oil shale stringer at 2296.9 and 2297.1.
2298.2	2299.5	Oil Shale, marly, light olive brown to buff, even bedding, excellent competence, very low to low grade; .2 medium olive brown medium grade oil shale band at 2298.3, .05 band at 2298.5; a .2 medium brown, medium crystalline nahcolite pod bladed and radiated structure, with associated white altered nahcolite at 2298.2; a .1 band of white altered nahcolite streaks at 2298.5, few scattered asphaltic tuff streaks; trace asphalt streaks.

From	To	
2299.5	2309.5	Oil Shale; medium olive brown, streaked with trace even bedding, excellent competence, medium to high grade; .2 band of dark olive brown high grade oil shale at 2295.5; buff marly streaks and blebs common; trace gilsonite streaks and blebs; trace asphaltic tuff blebs; trace pyritic tuff blebs and streaks; .3 zone of irregular pyrite streaks and stringers at 2308.7 and .2 at 2309.2; .3 zone white altered nahcolite streaks and stringers at 2308.6.
2309.5	2311.9	Oil Shale; medium to dark olive brown to medium gray brown, even and streaked with trace offset and wavy bedding, excellent competence, high grade; several scattered pyrite streaks and stringers; numerous dark brownish gray silty streaks and stringers; slightly argillaceous; trace asphalt streaks; gradational contact.
2311.9	2316.3	Oil Shale; medium olive brown to medium gray brown, even bedding, excellent competence, medium to high grade; pyrite streaks and stringers abundant; trace gilsonite streaks; trace asphaltic tuff streaks; few scattered pyrite blebs; light blue gray granular analcitized tuff stringer at 2315.3.
2316.3	2318.6	Oil Shale marly, light olive brown to light gray brown, even with trace looped and irregular bedding, good competence, very low grade; several scattered pyrite stringers; few scattered medium olive brown oil shale stringers; trace scattered blue gray granular analcitized tuff stringers.
2318.6	2319.9	Oil Shale marly, light olive brown to light gray brown, even with looped and irregular bedding, excellent competence, very low to low grade; scattered pinpoint calcite; few scattered blue gray granular analcitized tuff stringers; several scattered pyrite stringers and streaks; dark olive brown, medium grade oil shale stringers and streaks common; gradational contact.
2319.9	2322.6	Oil Shale, dark olive brown to dark gray brown, even, irregular and looped bedding, good competence, high grade; few scattered pyritic tuff stringers; 0.1 buff silty band at 2320.7; 0.1 tan to buff marly band at 2320.3.
2322.6	2325.8	Oil Shale, medium olive brown to medium gray brown, even with trace streaked bedding, good competence, medium grade; abundant pyrite streaks and stringers; pyritic tuff stringers common; 0.1 pyritic tuff band at 2324.5; trace buff marly streaks.
2325.8	2327.3	Oil Shale; medium olive brown, even with streaked bedding, excellent competence, medium to high grade; abundant dark gray pyrite streaks, stringers, and blebs; tuff fine slightly asphaltic streaks.
2327.3	2329.3	Oil Shale; light gray brown, even with trace looped and streaked bedding, good to excellent competence, low to medium grade; abundant dark gray pyrite streaks and stringers; medium brown asphaltic tuff streaks and stringers; few light brown to buff tuff stringers.

From	To	
2329.3	2331.5	Oil Shale; medium olive brown to medium gray brown, even with trace streaked and looped bedding, excellent competence, medium to high grade; abundant dark gray pyrite stringers and streaks; several light brown marly streaks and blebs; trace gilsonite streaks.
2331.5	2332.9	Oil Shale; light to medium olive brown to light gray brown, even with trace irregular and looped bedding, excellent competence, low to medium grade; abundant dark gray pyrite streaks and stringers; trace dark brown asphalt stringers.
2332.9	2335.0	Oil Shale; light olive brown to light gray brown, even with streaked and trace looped and irregular bedding, excellent competence, low to medium grade; trace light brown to buff marly streaks and stringers; abundant dark gray pyrite streaks, stringers, and blebs; from 2334.4-2335.0 grade to medium to high grade.
2335.0	2337.3	Nahcolite with oil shale; Nahcolite, medium to dark brown, medium to coarse crystalline with bladed and radiated structure and associated pyrite rims; oil shale, medium olive brown to medium gray brown, irregular to wavy with trace massive bedding, medium grade; overall excellent competence; a dark brown to black 0.05 oil shale high grade band at 2336.3; trace light brown to buff marly streaks and stringers; trace pyrite stringers; trace gilsonite streaks; trace asphalt streaks; a 0.6 oil shale band from 2335.0-2335.6, a 0.1 band at 2336.0.
2337.3	2340.4	Oil Shale with Nahcolite, Oil Shale, light olive brown, even with irregular bedding, excellent competence, low grade; Nahcolite, dark brown, coarse crystalline, pods and bands, with bladed and radiated structure and heavy pyrite rims; a 0.1 nahcolite band at 2337.6, 2337.8, and 2338.0, and a 0.3 band at 2338.9, and a 0.6 band at 2339.9, and a 0.2 zone of 0.05-0.1 pods from 2338.0-2338.2, and 0.1 pods at 2337.5, 2338.6, and 2338.8; overall good competence; trace scattered light brown to buff marly stringers; trace asphalt stringers.
2340.4	2347.8	Oil Shale, medium olive brown, streaked bedding, excellent competence, medium grade; abundant buff marly stringers and blebs; abundant pyrite streaks, stringers, and blebs; a 0.4 light olive brown very low grade oil shale band at 2341.7; a 0.3 zone of abundant irregular pyrite streaks and stringers at 2344.9; a 0.4 dark brown coarse crystalline nahcolite band with bladed and radiated structure and associated white altered nahcolite at 2344.4; trace gilsonite streaks; trace scattered zone of pinpoint white altered nahcolite; trace buff marly nodules.
2347.8	2349.6	Oil Shale, light olive brown, irregular to nearly massive bedding, excellent competence, low grade; several scattered buff marly streaks; trace scattered zones of pinpoint white altered nahcolite; few scattered medium to dark olive brown oil shale streaks; a 0.05 dark brown coarse crystalline nahcolite pod with bladed and radiated structure and associated pyrite rims at 2349.1; a zone of 0.1-0.2 dark brown coarse crystalline nahcolite pods with bladed and radiated structure and associated white altered nahcolite and pyrite rims from 2349.4-2349.5; a zone of pyrite streaks and stringers from 2349.4-2349.5.

From	To	
2349.6	2355.0	Oil Shale, medium olive brown to medium gray brown, streaked, even, irregular, and looped bedding with trace contorted bedding, excellent competence, high grade; abundant pyrite streaks, stringers, and blebs; abundant buff marly streaks, stringers, and blebs; trace gilsonite streaks; a 0.1 dark brown to black very high grade oil shale band at 2253.3; a 0.9 dark brown coarse crystalline nahcolite band with bladed and radiated structure and associated white altered nahcolite from 2354.1-2355.0.
2355.0	2357.5	Oil Shale, light olive brown, irregular bedding to nearly massive, excellent competence, low grade; several medium to dark olive brown medium to high grade oil shale stringers; several scattered buff marly streaks and blebs; a 0.3 zone of pyrite lamina and stringers at 2355.7; trace asphalt streaks.
2357.5	2360.9	Oil Shale, light to medium olive brown, streaked with irregular bedding, good to excellent competence, low to medium grade; abundant buff marly streaks, stringers, and blebs; a few scattered buff marly nodules; several pyrite blebs and streaks; trace gilsonite streaks; several scattered dark olive brown high grade oil shale streaks and stringers; trace pinpoint white altered nahcolite.
2360.9	2362.8	Oil Shale, light olive brown, even and looped bedding, excellent competence, low grade; abundant dark olive brown high grade oil shale streaks and stringers; trace scattered zone of pinpoint white altered nahcolite; few scattered pyrite stringers and lamina; several buff marly streaks and stringers; trace gilsonite streaks; trace asphalt streaks.
2362.8	2366.4	Oil Shale, light olive brown to medium gray brown, even with trace streaked and irregular bedding, excellent competence, medium grade; gilsonite streaks common; few scattered buff marly streaks, blebs, and stringers; few scattered pyrite streaks and stringers; trace scattered zones of pinpoint white altered nahcolite; trace scattered asphalt streaks.
2366.4	2368.6	Oil Shale, medium to dark olive brown to medium dark gray brown, even with trace looped and irregular bedding, excellent competence, high grade; abundant buff marly streaks and stringers; abundant pyrite streaks, stringers, and blebs; few scattered white altered nahcolite streaks; trace gilsonite streaks; trace asphalt streaks.
2368.6	2369.9	Oil Shale, light olive brown, streaked and irregular bedding, good to excellent competence, low grade; few scattered medium olive brown medium grade oil shale stringers; pyrite streaks and stringers common; trace gilsonite streaks.
2369.9	2374.2	Oil Shale, medium olive brown to medium gray brown, streaked bedding, excellent competence, medium to high grade; dark olive brown oil shale stringers common; few scattered gilsonite streaks; abundant buff marly streaks and blebs; abundant pyrite streaks and stringers.

From	To	
2374.2	2377.9	Oil Shale, medium gray brown, even with trace looped bedding, good to excellent competence, medium grade; abundant pyrite stringers and lamina; trace gilsonite streaks; trace light gray brown marly streaks and stringers; few tectonic fracture zones with associated pyrite.
2377.9	2380.4	Oil Shale, dark olive brown, irregular with streaked and looped bedding, good to excellent competence, high grade; few pyritic lamina; several buff marly stringers and blebs; gradational contact.
2380.4	2383.0	Oil Shale, dark gray brown, even with trace contorted bedding, fair to good competence, medium grade; a 0.05 pyritic tuff band at 2387.2; abundant pyrite streaks, stringers, and lamina; gilsonite streaks common; abundant pinpoint streaks and stringers of white, soft, non-calcareous, platy, translucent unknown mineral in a 0.1 band of light gray to white pyrite tuff at 2382.9.
2383.0	2386.3	Oil Shale, light to medium olive brown to medium gray brown, even bedding with trace looped, excellent competence, medium grade; abundant pyrite stringers and lamina; trace pinpoint streaks and stringers of white, soft, non calcareous, platy, translucent unknown mineral; trace tan to buff marly streaks and stringers.
2386.3	2389.0	Oil Shale, argillaceous, light to medium olive brown to gray brown, even bedding, poor to fair competence, low grade; abundant pyrite streaks, stringers, and lamina; light brown to buff marly streaks, stringers, and bands; trace dark brown bleeding asphalt stringers; several scattered pinpoint disseminated dawsonite zones; trace gilsonite streaks.
2389.0	2390.9	Oil Shale, argillaceous, medium olive brown to black gray brown, even bedding, fair competence, low grade; abundant pyrite stringers and lamina; 0.05 light gray to white pyritic tuff lens at 2390.1; asphalt streaks common; some scattered pinpoint disseminated dawsonite on partings; trace gilsonite streaks.
2390.9	2394.5	Oil Shale, argillaceous, light olive brown to light medium gray brown, even with trace looped bedding, fair to good competence, low to medium grade; pyrite streaks, stringers, and lamina abundant; several scattered gilsonite streaks and stringers; trace asphalt streaks; several buff marly stringers and bands.
2394.5	2395.4	Oil Shale, dark olive brown to dark gray brown, looped and irregular bedding, good competence, high grade; abundant pyrite lamina; several scattered asphalt streaks; few light brown slightly marly oil shale stringers; trace gilsonite streaks.
2395.4	2396.7	Oil Shale, medium to dark olive brown, irregular with trace looped and streaked bedding, excellent competence, medium to high grade; trace asphaltic tuff blebs; trace gilsonite streaks; trace pyrite streaks.

From	To	
2396.7	2400.7	Oil Shale, light to medium olive brown, streaked with looped and trace even bedding, excellent competence, medium grade; a 0.05 pyrite band at 2397.2; several scattered pyrite blebs and streaks; abundant light brown marly streaks, blebs, and nodules; trace gilsonite streaks; trace asphalt streaks; trace pinpoint dawsonite.
2400.7	2402.2	Oil Shale, dark olive brown to dark gray brown, even with trace irregular bedding, good to excellent competence, high grade; several scattered gilsonite streaks, stringers, and blebs; several scattered pyrite stringers and lamina; trace pinpoint dawsonite.
2402.2	2404.7	Oil Shale, light to medium olive brown to medium gray brown, even with trace irregular bedding, excellent competence, medium grade; gilsonite streaks and stringers common; several light brown to light gray brown marly stringers and bands; asphaltic tuff blebs, stringers, and bands common; trace asphalt streaks; trace pinpoint dawsonite.
2404.7	2406.0	Oil Shale, argillaceous, dark gray brown, even with trace irregular bedding, fair to good competence, low to medium grade; abundant gilsonite streaks and stringers; trace asphalt streaks; trace pyritic tuff lens; trace pyrite stringers and blebs.
2406.0	2407.0	Oil Shale, medium olive brown to medium gray brown, even with irregular and trace looped bedding, good competence, medium to high grade; gilsonite stringers abundant; several light brown marly stringers and bands; several pyrite stringers.
2407.0	2410.9	Oil Shale, medium to dark olive brown to medium dark gray brown, even with trace irregular bedding, good competence, medium to high grade; abundant pyrite lamina and stringers; several scattered gilsonite streaks; abundant asphalt on fractures at 2408.3; several pyritic tuff stringers; several light brown marly stringers; few scattered white slightly calcareous tuff stringers; few scattered bleeding asphaltic tuff stringers; few scattered asphaltic tuff stringers.
2410.9	2412.0	Oil Shale, medium olive brown to dark gray brown, even bedding, excellent competence, medium to high grade; slightly argillaceous; abundant pyrite streaks, stringers, and lamina; trace scattered pyritic tuff stringers; trace scattered tan marly streaks.
2412.0	2415.1	Oil Shale, light to medium olive brown to light gray brown, streaked with trace irregular and looped bedding, excellent competence, low to medium grade; abundant buff marly streaks and blebs; several scattered dark olive brown medium to high grade oil shale stringers; few scattered pyrite streaks and stringers; trace gilsonite streaks; trace asphalt streaks and stringers.

From	To	
2415.1	2416.7	Oil Shale, light to medium olive brown to medium gray brown, streaked with trace irregular and looped bedding, excellent competence, medium grade; abundant gilsonite streaks; abundant buff marly streaks, stringers, and blebs; few scattered pyrite streaks and stringers; several scattered medium to dark olive brown high grade oil shale stringers.
2416.7	2417.7	Oil Shale, medium to dark olive brown, dark gray brown, even bedding, excellent competence, medium to high grade; trace scattered calcite tuff streaks; pyrite stringers and lamina common.
2417.7	2423.8	Shale, dark gray to black, even bedding, poor competence; numerous planar to disked shaly partings, some with gilsonite fish fossils; few scattered 0.05 slightly pyritic tuff bands; trace kerogen.
2423.8	2425.9	Oil Shale, argillaceous, light olive brown to dark gray brown, even with trace looped and irregular bedding, poor to good competence, low grade; several scattered tan marly stringers and blebs; 0.1 slightly pyritic, slightly asphaltic tuff band at 2425.3; trace scattered dark brown oil shale stringers.
2425.9	2428.1	Oil Shale, medium olive brown to medium gray brown, even bedding, fair competence, low grade; slightly argillaceous; abundant medium gray pyrite stringers, streaks, and lamina; 0.1 medium gray pyrite band at 2427.4; trace scattered gilsonite streaks; few scattered asphalt streaks and stringers; numerous planar shaly partings.
2428.1	2430.4	Oil Shale, argillaceous, light to medium olive brown to medium gray brown, even with trace wavy bedding, poor to fair competence, low grade; abundant pyritic tuff stringers and lamina; zone of 0.1 calcareous tuff stringers from 2428.3-2428.8.
2430.4	2438.7	Shale, dark gray brown to black, even bedding, poor competence, trace kerogen; abundant dark gray pyrite streaks and stringers; few scattered pyritic tuff streaks and stringers; few scattered medium olive brown oil shale stringers; numerous partings, some with fish fossils and gilsonite fossils; core breaks easily by hand.
2438.7	2443.3	Oil Shale, argillaceous; dark gray brown, even with trace looped bedding, poor to fair competence, very low to low grade, abundant buff marly streaks, stringers, and lamina; light blue gray granular analcitized tuff stringers common; trace dark olive brown high grade oil shale stringers; trace gilsonite streaks; trace asphalt streaks; .05 irregular asphalt bleb at 2448.4; greenish gray pyrite stringers common.
2443.3	2454.2	Oil Shale; medium olive brown, even with trace streaked bedding, good competence, low to medium grade; fine to buff marly bands and lamina common; asphalt streaks common; gilsonite streaks common; trace medium brown granular asphaltic tuff stringers and streaks.

From	To	
2454.2	2458.1	Oil Shale; dark olive brown to dark gray brown, streaked and even bedding, poor competence, medium to high grade; gilsonite streaks common; pyrite streaks common; trace medium brown granular asphaltic tuff streaks and blebs; .2 tan to buff marlstone band at 2456.4; abundant tan to buff marlstone stringers and bands from 2456.7-2457.3.
2458.1	2460.9	Shale; medium greenish gray, even bedding, poor competence, slightly calcareous, brittle, moderately hard, trace kerogen; greenish gray pyrite lamina common; gilsonite streaks and blebs common; trace medium olive brown low grade oil shale streaks and stringers; abundant shaly partings, some with gilsonite and fish fossils; core breaks easily by hand; gradational contact.
2460.9	2465.5	Oil Shale; dark olive brown to dark gray brown, even and streaked bedding, poor competence, high grade; gilsonite streaks common; medium brown asphaltic tuff stringers common; .1 dark brown bleeding tuff exuding dark brown sticky asphalt resin at 2463.4; abundant buff marlstone stringers and bands at 2464.2-2465.1.
2465.5	2469.1	Oil Shale, argillaceous, light to medium olive to light gray brown, even with trace looped bedding, poor competence, low grade; abundant tan to buff marly streaks, stringers, and lamina; few scattered light gray pyritic tuff stringers; numerous shaly partings some with slicks, gilsonite, and fish fossils.
2469.1	2475.7	Oil Shale, medium to dark olive brown and medium gray brown, even with trace looped and irregular bedding, fair competence, medium to high grade; abundant buff marly streaks and stringers; several scattered dark green gray, pyritic tuff stringers and lamina; numerous shaly partings; a .15 buff marly band at 2473.6; trace scattered gilsonite streaks; trace scattered asphaltic streaks; 0.2 dark blue gray granular analcitized tuff at 2475.5.
2475.7	2477.5	Oil Shale, argillaceous, dark gray brown, even with trace irregular and contorted bedding, poor competence, very low to low grade; few scattered pyrite stringers; trace scattered buff marly stringers; trace gilsonite streaks; numerous shaly partings some with gilsonite fossils and slicks; trace scattered medium to dark olive brown, medium grade oil shale streaks and stringers; gradational contact.
2477.5	2481.1	Oil Shale, medium olive brown to medium gray brown, even with trace irregular bedding, poor competence, low to medium grade; several scattered tan to buff marly streaks, stringers, and lamina; few scattered pyritic tuff stringers and streaks; trace gilsonite streaks; numerous planar and disked partings, some with gilsonite fossils; trace dark brown asphaltic tuff stringers; slightly argillaceous; gradational contact.

From	To	
2481.1	2483.9	Oil Shale, medium to dark olive brown and medium gray brown, even with trace looped and irregular bedding, poor competence, medium to high grade; abundant gilsonite streaks and blebs; trace buff marly stringers; abundant dark green gray pyrite stringers; numerous shaly partings with gilsonite fossils; a zone of scattered calcareous tuff streaks from 2483.5-2483.9.
2483.9	2486.7	Oil Shale, light olive brown to medium gray brown, even with trace streaked bedding, poor competence, low grade; slightly argillaceous; abundant gilsonite streaks; few scattered white calcareous tuff streaks and stringers; trace asphaltic tuff streaks and stringers; numerous shaly partings with gilsonite fossils and dawsonite; abundant pyrite stringers and lamina; .05 white altered nahcolite band at 2486.3.
2486.7	2488.6	Oil Shale; light to medium olive brown, streaked bedding, good to excellent competence, medium to high grade; tan to buff marly streaks common; trace asphaltic blebs; trace gilsonite streaks; zone of abundant white irregular calcite lens, streaks from 2488.0-2488.6.
2488.6	2491.7	Oil Shale, argillaceous; light to medium gray brown, even with trace streaked and looped bedding, poor to fair competence, low grade; medium olive brown medium grade oil shale stringers common, gilsonite streaks and lens common; trace irregular asphaltic tuff stringers; trace pyrite streaks and stringers; numerous shaly partings, some with gilsonite fossils; core breaks easily by hand; gradational contact.
2491.7	2494.5	Oil Shale; light olive brown to light gray brown, even with trace irregular bedding, fair competence, low grade; greenish gray pyrite streaks and lamina common; tan to buff marly stringers and lamina common; trace dark olive brown oil shale streaks; asphalt streaks common; trace medium brown asphaltic tuff blebs; gradational contact.
2494.5	2499.6	Oil Shale; medium to dark olive brown, even with looped bedding, good to excellent competence, medium to high grade; gilsonite streaks common; medium brown asphaltic tuff stringers and lens common; several white irregular calcite streaks and lens from 2494.7-2495.2.
2499.6	2503.9	Oil Shale; medium olive brown and medium gray brown, even with trace streaked and looped bedding, good to excellent competence, medium grade; medium brown asphalt streaks, lens, and blebs common; gilsonite streaks common; several scattered greenish gray pyrite tuff stringers; trace dark olive brown high grade oil shale stringers; from 2501.2-2501.9 a zone of low grade argillaceous oil shale; .2 zone of brown and gray granular tuff at 2503.7; gradational contact.
2503.9	2507.0	Oil Shale, light olive brown to light gray brown, even and streaked bedding, poor to fair competence, very low to low grade; argillaceous; tan to buff marly streaks common; trace tan granular tuff streaks; .05 irregular gilsonite lens at 2504.9; greenish gray pyrite stringers and lamina common; trace scattered gilsonite streaks.

From	To	
2507.0	2510.3	Oil Shale, medium olive brown and dark gray brown; even with trace looped bedding; poor to fair competence, medium grade; trace scattered buff marly streaks and stringers; trace scattered white calcite stringers; trace gilsonite streaks; several scattered green gray pyrite stringers and lamina; numerous shaly partings some with gilsonite fossils.
2510.3	2512.6	Oil Shale, argillaceous, medium olive brown and dark gray brown, even with trace looped and offset bedding; poor competence, very low to low grade; trace scattered light brown, asphaltic tuff stringers; trace scattered pyritic tuff stringers and lamina; core breaks easily by hand.
2512.6	2515.5	Oil Shale, medium to dark olive brown, even with trace looped and irregular bedding, poor to fair competence, medium to high grade; abundant buff marly streaks and stringers; several scattered pyrite streaks; gilsonite streaks common; 0.1 light blue gray granular, analcitized tuff lens at 2513.5; numerous shaly partings some with gilsonite fossils; trace pyritic tuff stringers.
2515.5	2518.6	Oil Shale, medium olive brown to medium gray brown, even bedding, fair competence, medium grade; slightly argillaceous; dessication common, numerous planar and disked shaly partings; trace tan to buff marly streaks and stringers; few scattered medium brown granular asphaltic tuff lamina; few scattered partings with pyrite and fish fossil clasts; trace greenish gray pyrite stringers and lamina; light blue gray granular analcitized tuff from 2517.2-2517.5; heavy sticky asphalt coating on fracture at 2517.3; gradational contact.
2518.6	2520.3	Oil Shale, dark olive brown, even with trace looped bedding, good to excellent competence, high grade; irregular gilsonite lens common; trace medium brown asphaltic tuff streaks and blebs; few shaly partings some with fish fossils; evidence bubbling core; gradational contact.
2520.3	2525.5	Oil Shale, dark olive brown to black, even with looped and contorted bedding, good to excellent competence, high to very high grade; irregular gilsonite lens common; few scattered buff marly stringers and lamina; few scattered white calcite streaks from 2521.0-2521.8; trace medium brown granular asphaltic tuff stringers and blebs; few scattered partings some with gilsonite fish fossils; evidence bubbling core.
2525.5	2528.0	Oil Shale, dark olive brown and dark gray brown, even with trace looped and contorted bedding, good to excellent competence, medium to high grade; trace buff marly streaks and blebs; trace gilsonite streaks; trace greenish gray pyrite streaks and lamina; few scattered irregular white calcite lens from 2526.1-2526.7.

From	To	
2528.0	2529.4	Oil Shale, light to medium olive brown, streaked and looped bedding, excellent competence, low to medium grade; medium brown granular asphaltic tuff streaks and blebs common; trace gilsonite streaks; trace dark olive brown high grade oil shale streaks; tan to buff marly stringers, streaks, and bands common; evidence bubbling core.
2529.4	2532.6	Oil Shale, medium olive brown to medium gray brown, even with trace looped bedding, good to excellent competence, medium to high grade; few scattered greenish gray pyrite stringer and lamina; small irregular medium brown granular asphaltic tuff blebs common; trace greenish gray granular pyritic tuff streaks; zone of irregular white calcareous lens from 2530.0-2530.6; small gray bentonitic clay stringer at 2531.5; from 2531.8-2532.6 gradually grades to new interval.
2532.6	2535.8	Oil Shale, argillaceous, light gray to brown to light greenish brown, even bedding, poor to fair competence, very low grade; greenish gray pyrite stringer and lamina common; gilsonite streaks common; abundant planar and disked shaly partings with pyrite and gilsonite fish fossils; trace tan granular tuff streaks; trace medium brown granular asphaltic tuff streaks and blebs; 0.20 greenish gray pyrite marly band at 2534.5 with some evidence leaching and collapsing; gradational contact.
2535.8	2540.2	Oil Shale; dark olive brown to dark gray brown, even bedding, good to excellent competence, high grade; gilsonite streaks and lens common, trace greenish gray pyrite streaks and lamina; trace medium brown asphaltic tuff streaks and blebs; .3 band gray brown marlstone with oil shale stringers at 2535.9; evidence bubbling core; from 2538.5-2540.2 grades gradational to next interval.
2540.2	2541.7	Oil Shale, argillaceous; medium gray brown to medium olive brown, even with streaked bedding, poor to fair competence, very low to low grade; abundant buff marly streaks and stringers; gilsonite stringers and lens common; greenish gray pyrite stringers and lamina common; medium brown granular asphaltic tuff streaks and blebs common.
2541.7	2543.7	Oil Shale; medium olive brown, even with trace looped bedding, good competence, medium to high grade; gilsonite stringers and lens common; trace blue gray granular analcitized tuff stringers; medium brown granular asphaltic tuff streaks and blebs common; .3 medium brown massive tuff from 2542.3-2542.6; gradational contact.
2543.7	2549.7	Oil Shale, argillaceous; light to medium gray brown, even with trace looped bedding, poor to fair competence, very low grade; abundant gilsonite stringers and lens; trace tan to buff marly streaks and stringers; trace medium brown asphaltic tuff streaks and blebs; numerous shaly partings with gilsonite and fish fossils; evidence bubbling core.

From	To	
2549.7	2553.5	Oil Shale; dark olive brown, even, and looped bedding, good to excellent competence, high to very high grade; trace gilsonite streaks; trace medium granular asphaltic tuff streaks and stringers; several .05 asphalt blebs from 2551.2-2552.4; evidence bubbling core; gradational contact.
2553.5	2555.8	Shale; medium to greenish gray, even bedding, poor to fair competence, moderately hard, greasy, slightly calcareous, trace kerogen; greenish gray pyrite stringers common; trace tan to buff marly stringers; .05 greenish gray irregular pyrite lens at 2554.2; several medium brown granular asphaltic tuff lens from 2555.0-2555.5.
2555.8	2561.6	Oil Shale, argillaceous, light to medium olive brown to medium gray brown, even bedding, poor to fair competence, low grade; abundant pyrite lamina and blebs; several gilsonite streaks and stringers; numerous shaly partings some with gilsonite fossils; trace tan to gray asphaltic tuff stringers.
2561.6	2564.3	Oil Shale, argillaceous, dark gray brown, even with trace irregular bedding, poor to fair competence, low grade; several 0.05 asphalt blebs, nodules, and streaks; several light gray marly stringers and streaks; numerous shaly partings with abundant disseminated pyrite and some gilsonite fossils.
2564.3	2566.2	Shale, light to medium gray, even with trace irregular bedding, poor competence, trace kerogen; trace gilsonite streaks; numerous shaly partings; a 0.1 light brown gray marly band at 2565.6.
2566.2	2570.7	Oil Shale, argillaceous, light to medium olive brown to light gray brown, even bedding, fair competence, low grade; abundant pyrite lamina; abundant gilsonite streaks; numerous shaly partings some with gilsonite fossils; several white to light gray pyritic tuff streaks and stringers; several medium to dark olive brown medium grade oil shale stringers; several asphaltic tuff streaks and stringers.
2570.7	2572.2	1.5' core loss.
2572.2	2577.5	Oil Shale, argillaceous, medium olive brown to medium gray brown, even with trace irregular bedding, good competence, low grade; abundant gilsonite streaks and stringers; numerous shaly partings some with gilsonite fossils; several 0.1 light gray brown marly bands at 2573.2, 2573.5, 2574.4, and 2575.6; several asphalt blebs and nodules; trace asphaltic tuff blebs; trace pyritic tuff stringers; trace waxy asphalt resin on fracture at 2575.4.
2577.5	2585.1	Shale, light gray brown to medium gray brown, even bedding, poor competence, fairly hard, trace kerogen; few scattered gilsonite streaks; numerous planar to disked shaly partings some with gilsonite fossils; trace medium olive brown oil shale stringers; a 0.2 buff marly band at 2579.0. a 0.05 slightly calcareous tuff band at 2581.0.

From	To	
2585.1	2586.7	Oil Shale, argillaceous, medium olive brown to dark gray brown, even bedding, poor competence, very low grade; numerous planar to disked shaly partings some with gilsonite fossils; trace buff marly streaks and stringers; trace gilsonite streaks; gradational contact.
2586.7	2592.2	Oil Shale, medium to dark olive brown, even with trace streaked bedding, fair to good competence, high grade; abundant gilsonite streaks; few scattered pyrite streaks and stringers; trace scattered buff marly streaks; trace scattered calcareous tuff streaks and stringers; several planar shaly partings with gilsonite fossils; gradational contact.
2592.2	2595.6	Oil Shale, argillaceous, even with trace streaked and looped bedding, poor competence, very low to low grade; trace scattered buff marly streaks and stringers; several scattered pyrite streaks and stringers; numerous planar to disked shaly partings some with gilsonite fossils; trace asphalt streaks.
2595.6	2598.3	Oil Shale, medium to dark olive brown, even, streaked, and looped bedding, good to excellent competence, medium grade; abundant pyrite streaks and stringers; trace scattered buff marly streaks and lens; trace gilsonite streaks; trace asphalt streaks.
2598.3	2600.0	Shale, dark gray brown, even with trace looped bedding, poor competence, brittle, trace kerogen; several scattered white tuff streaks.
2600.0	2603.2	Oil Shale, argillaceous, light olive brown to medium gray brown, even bedding, poor competence, very low to low grade; abundant 0.05 buff marly bands; several scattered medium olive brown low to medium grade oil shale stringers; trace gilsonite streaks; trace asphalt streaks; numerous planar to disked shaly partings some with gilsonite fossils.
2603.2	2609.4	Oil Shale, medium to dark olive brown, even with trace streaked bedding, poor to fair competence, medium to high grade; several scattered pyritic tuff streaks, stringers, and 0.05 bands; abundant gilsonite streaks; few scattered buff marly stringers and lamina; numerous planar to disked shaly partings some with gilsonite fossils and fish fossils.
2609.4	2611.5	Oil Shale, argillaceous, light olive brown to dark gray brown, even bedding, poor competence, very low to low grade; abundant gilsonite streaks; several scattered buff marly streaks and stringers; trace pyritic tuff streaks and stringers; numerous planar to disked shaly partings some with gilsonite fossils; gradational contact.
2611.5	2623.7	Oil Shale, medium to dark olive brown, even with trace streaked and looped bedding, good competence, medium grade; abundant white tuff streaks and stringers; abundant gilsonite streaks; few scattered pyritic tuff streaks and stringers; numerous planar to disked shaly partings some with gilsonite fossils and fish fossils; abundant asphalt streaks; gradational contact.

From	To	
2623.7	2627.3	Oil Shale, medium olive brown to dark gray brown, even with trace streaked bedding, fair competence, low to medium grade; abundant gilsonite streaks; several scattered buff marly streaks and stringers; several scattered asphalt streaks; numerous planar to disked shaly partings some with gilsonite fossils.
2627.3	2640.9	Shale, dark gray to black, even with trace irregular bedding, fair to good competence, trace kerogen; several pyritic tuff streaks and blebs; numerous planar to disked shaly partings some with gilsonite fossils; a 0.1 pyritic tuff band at 2637.5.
2640.9	2642.6	Oil Shale, argillaceous, medium to dark gray brown, even bedding, good competence, low grade; trace pyritic tuff stringers; trace light brown to buff marly streaks and stringers.
2642.6	2656.0	Oil Shale, argillaceous, medium gray brown, even with trace irregular bedding, fair to good competence, very low grade; numerous shaly partings some with gilsonite fossils; trace light gray slightly pyritic tuff streaks and stringers; trace asphalt streaks; a 0.4 light brown marly band at 2650.9-2651.3, a 0.2 at 2654.5, and a 0.5 at 2655.5-2660.0; trace gilsonite streaks.
2656.0	2661.1	Shale, medium to dark gray, even with trace irregular bedding, poor competence, brittle, trace kerogen; a 0.1 buff marly band at 2657.5, 2657.9, 2658.4, 2658.7, and 2661.8, a 0.2 band at 2656.8, 2659.3 and 2660.0; abundant gilsonite streaks; trace scattered medium olive brown oil shale stringers; trace scattered asphaltic tuff streaks and stringers; numerous planar to disked shaly partings some with gilsonite fossils.
2661.1	2663.5	Oil Shale, argillaceous, light to medium olive brown to medium gray brown, even and irregular with trace looped bedding, poor competence, very low to low grade; a zone of irregular tuff stringers and blebs from 2661.8-2662.5 (possibly burrows); abundant gilsonite streaks; several scattered medium to dark olive brown medium grade oil shale stringers; a 0.2 tan calcareous tuff band at 2661.6, and a 0.05 at 2662.2, and a 0.1 at 2663.3; numerous planar to disked shaly partings some with gilsonite fossils; trace asphaltic tuff stringers and blebs.
2663.5	2667.7	Oil Shale, argillaceous and marly, light gray brown with light to medium olive brown, even bedding, good competence, very low grade; a 0.4 light gray marly band at 2664.3, a 0.6 band at 2665.5, a 0.2 band at 2666.0, a 0.1 band at 2665.2, 2665.4, and 2667.6; numerous shaly partings some with gilsonite fossils.
2667.7	2677.0	Oil Shale, argillaceous, medium gray brown, even bedding, good competence, low grade; several light gray to white calcareous tuff stringers and a 0.1 band at 2668.8, 2670.7, 2670.8, 2676.3, and 2676.9; a 0.2 light gray to white at 2671.1 and a 0.3 band at 2675.9 numerous shaly partings some with gilsonite fossils; several pyrite stringers and lamina; few shaly partings with slicks.
2677.0		T.D. (Total Depth).